

# **MONTEZUMA I & II**

## **CULTURAL RESOURCES**

Pacific Gas and Electric Company



*Prepared By:*

**Theodoratus Cultural Research**  
**Fair Oaks, California**  
**1980**

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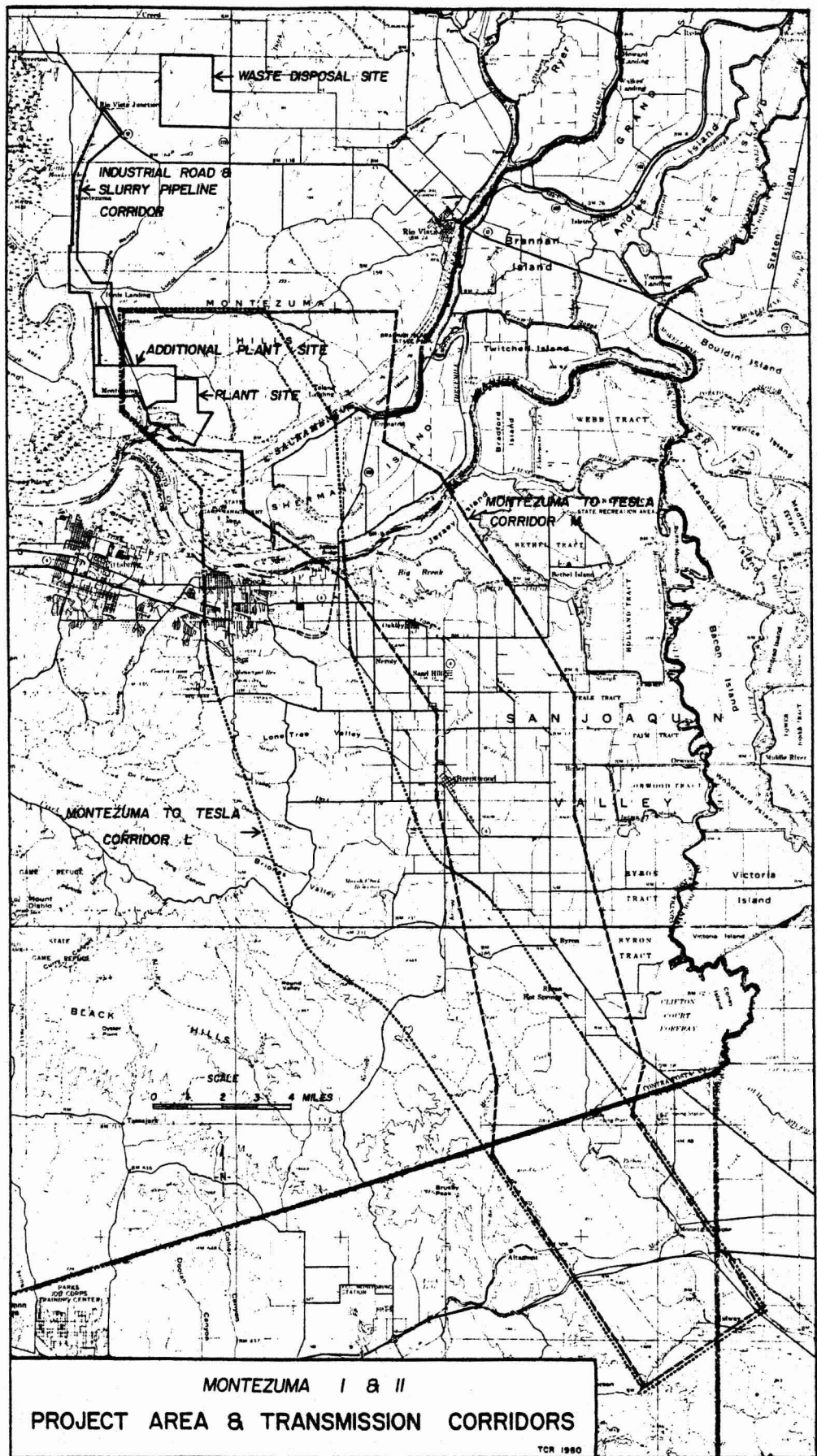
## CHAPTER 1

### INTRODUCTION

The Montezuma I and II project area lies in the western portion of the Sacramento-San Joaquin River Delta, for the most part in the area known as the Montezuma Hills (Map 1). The site has been proposed for development as a coal-fired electrical generation facility by Pacific Gas and Electric Company (PG&E) and the California Energy Commission (CEC). As part of the environmental review process for this development, Theodoratus Cultural Research (TCR) began an examination of cultural resources in the area of the proposed facility. This effort was begun in December of 1979, and has resulted in the present report of findings. At the same time, an overview study was undertaken for two proposed transmission corridor routes extending south from the generation facility to the PG&E Tesla substation in northeast Alameda County (Map 1). The material in this report is presented so that PG&E and the CEC will be able to consider the effects of the project development on significant cultural resources during planning and development phases.

#### The Study: Purpose and Scope

The principal purpose of this research effort has been to provide PG&E with information which would have allowed the company to complete requirements for Application For Certifica-



Map 1

tion to the California Energy Commission. The cultural resources investigation is considered part of the broad environmental review process necessary under CEC guidelines. In order to achieve this goal, TCR developed a research program which involved an intensive examination of the ethnographic, historical, and archaeological resources within the project area. This research has resulted in a full inventory of such resources and a preliminary assessment of their significance.

The disciplines of history, ethnography, and archaeology provide diverse insights into the cultural landscape which is the project area. Traditionally, cultural resources have been divided into categories corresponding to these disciplines, each of which can also provide insight into the resources normally associated with another discipline. Such an integrated research strategy can provide easier identification of resources as well as a fuller understanding of their significance. For this reason, TCR proposed an integrated or "team" approach for Montezuma I and II field research and analysis. This method called for the coordination of field research strategies and an approach to the analysis of resources which did not depend on the distinctions between disciplines, but rather on a multi-disciplinary approach to analysis. As a result, the discussion of resources in this report contains elements of all these approaches, often intermingled in the description and assessment of particular phenomena or resources in the project area.

The present report constitutes a Phase II research effort for the generation facility area. In 1978 and 1979, TCR completed an overview of four parcels which were being considered for the coal-fired generation facility. Among these was the Montezuma Hills location, in essentially the same geographic configuration used as the basis of the present study. The overview document described the basic prehistory, history, and ethnography of the region and isolated a number of research

questions and potential resource sensitivities applicable to the Montezuma site. The present Phase II research is a direct follow-up to the earlier work, both expanding on the original research directions and exploring new questions that have arisen as the result of a closer examination provided by fieldwork on the resources and the general area. Thus, the overview and the present report should be considered companion pieces, with the latter modifying some of the tentative projections offered in the earlier work. The overview is included as Appendix A to this report. The research on the transmission corridors from the generation site to Tesla is an overview level study, meant to highlight the general nature of the corridors and to isolate any specific resources which can be identified through written records or registries, such as the National Register of Historic Places, or various county lists. The overview is designed to provide PG&E with sufficient information to better plan the route of the corridor, to better anticipate potential impacts to significant resources, and to set guidelines for any necessary Phase II research.

The research tasks planned for the study of the Montezuma I and II generation facility area and the transmission corridors were outlined in a scope of work submitted to PG&E in 1979. This scope of services included three components: ethnography/ethnohistory, history, and archaeology. Each component was designed to be responsible for collecting particular kinds of information and for integrating this information or partial information, where possible, with the remaining components of the research. The tasks prescribed for each component of the research effort are described briefly below.

The ethnographic/ethnohistoric research effort involved a number of research tasks. First, this component was responsible for assembling and assessing the existing written information on Native American occupation and use of the area. These materials are mostly secondary and primary sources within

California ethnographic literature. In conjunction, the ethnographic staff was to locate and discuss with Native Americans the generation site area, in order to ascertain what additional ethnographic knowledge could be collected, and to determine if Native Americans might have particular concerns regarding the construction and operation of the plant in the area. Unfortunately, the early demise of the Indian communities during the Spanish and Mexican periods (up to the 1830's) precluded the collection of much information even by the earliest of the California ethnographers working in the first years of the 20th century. This also hampered any collection of new primary data by the TCR study team.

The ethnographic/ethnohistoric component was also assigned the responsibility for locating and interviewing any individuals who might be personally familiar with the area's history, or who might have materials or information stemming from family ties to the region. This method was designed principally for the collection of oral testimony relating to the non-Indian settlement and use of the area. It was correctly anticipated that such information would be helpful in identifying or locating resources and in determining the nature of historic resources discovered in the course of the archaeological field survey. Early in the fieldwork phases of the research, it was discovered that the preponderance of resource sites and materials were related to the period of European settlement (the mid-1800's) and the development of agricultural interests during the latter part of the 19th century. The oral testimony has been virtually indispensable in treating these sites, and in fact it has saved a great deal of time in the analysis phases. Data derived from field consultants were also critical to the collection and use of documentary sources pertaining to the region. Much of the day-to-day history of an area fails to be recorded and therefore is often lost to future generations. Such details as construction styles, preferred kitchen utensils, and locations of outhouses are lost unless some person

remembers them and is willing to confide them to the researcher. Unfortunately, many such details are essential to the archaeological analysis which must be done in order to determine the significance of sites discovered in the field.

The allied field of history draws principally on the published and unpublished sources pertaining to the region. It was the principal task of this component to assemble and assess these materials in order to provide a historic background, and more importantly, to assist in the location and assessment of historic resource locations. The historical staff consulted such sources as county histories, early maps, population and agricultural census records, county and state records relating to land ownership and land/river development, as well as collections in local historical repositories. These data contributed much to the explanation of resources located in the field survey. In many cases, the documentary record extended back in time beyond the memories of living consultants, in which case the only useful referent to an archaeological or architectural resource lay in such records. The comparison of data derived from these records with that from oral testimony, provided an important cross-check; and combining the two types of data provided a much more complete coverage of the area. Basic data retrieved from the agricultural and population censuses of 1860, 1870, and 1880, and the 1900 Solano County population census are presented in Appendix B. Historic buildings were inventoried during the course of the research on State of California, Department of Parks and Recreation, Resource Inventory Forms. These are presented to PG&E as a separate document.

The archaeological component was charged with providing a full inventory of physical resources which could be located in the project area. In conjunction with the other researchers, this component was to develop and refine the archaeologically-based aspects of the history and prehistory. Between January and March, 1980, a full walking survey of 100% of the project

area was completed, consisting of a search for either prehistoric or historic remains. In the course of this survey, a very high proportion of historic sites were noted and recorded, while the surface evidence of prehistoric remains was virtually non-existent. The archaeological component did relocate the single previously recorded site--a difficult task, since the site was highly disturbed by historic building and land use, and because it had been poorly recorded in a very early period of the California archaeological survey. Other possible prehistoric deposits were located through interviews with local residents who recalled finding artifacts during their childhood or in the course of building activities. Surface evidence of these sites was not found; however, one local resident did provide artifacts which had been located during foundation trenching activities.

The preponderance of historic archaeological sites resulted in a slight modification of the proposed survey and recordation techniques. Such sites have a component which is not present in prehistoric deposits: a documentary record which is specific to that locale or site. For this reason, a liaison was maintained between the archaeological component and the historical and ethnohistorical components. The nature and extent of these historic sites was often derived from oral testimony or the archival record, and these data are reflected in the recordation of the sites and the analysis of their significance. A critical aspect of this liaison is the fact that historic deposits were determined to be historic sites and were recorded as such on the basis of these non-archaeological data. In many cases the boundaries between sites, where they are close together or overlapping, were determined only through outside evidence.

The one previously recorded prehistoric site (Ca-Sol-33) was relocated and tested in accordance with the scope of services. A number of small test units were placed at locations

around and within the recorded site. In addition, soil constituents within and outside the presumed boundaries of the site were determined. These data contributed to the assessment of the integrity and significance of the site; this assessment is presented in Chapter 3 and in Appendix C. A second previously recorded site, somewhat outside the project area (Ca-Sol-34), was relocated, along with a collection of artifacts taken from the site by a local resident in the 1930's (see Appendix D for a discussion of this collection). While this site is outside the confines of the Montezuma I and II project area, it does contribute to the understanding of the local prehistory.

In the course of research a specialist on the conservation of adobe structures examined the Hastings Adobe. Her brief report of findings and recommendations may be found in Appendix E.

### Study Area

The Montezuma I and II study area is illustrated in Map 1. This study area was the same for all components of the research, although the approach of the disciplines in the study team varied for locales within the project area. The study area is comprised of a number of regions, the first of which is the Plant Site. This area is located east of the town of Collinsville, north of the Sacramento River, and it is within this area that actual generation facilities are planned. The "Additional Plant Site" is located to the west and north of the Plant Site, and it is here that support facilities, particularly rail support, are planned. The additional plant site area narrows into two corridors which merge near the town of Birds Landing. The narrow corridor to the east, which follows Collinsville Road north, has been suggested as the possible location of a "utility corridor." The area to the west follows the Sacramento Northern Railroad right-of-way, which has been

proposed as the route of entry for the generation facility's coal supply. The area north of Birds Landing to about the Rio Vista Junction is referred to as the railroad corridor, and it is the northerly extension of the railroad route of entry to the plant site. A location eight miles north of the plant site is slated to receive the waste products of the coal generation process. Called the Waste Disposal Site, it consists of approximately 2200 acres, as described in the original TCR scope of services.

The transmission corridors, running south to the Tesla substation from the plant site, comprised two additional study areas. These areas were examined in an "overview fashion" to determine the general sensitivities of the area. Within the corridors indicated on the accompanying map, efforts were concentrated on the possible route of the actual transmission lines (approximately the center of the study corridor). Specific historical and archaeological research was conducted to locate potential and known sites. A partial archaeological survey of the lines, based on projected areas of greatest sensitivity, was completed. The methodology and results of this survey are presented in the body of the report. An historical survey was completed, although it did not involve any field investigation other than that encountered by the archaeological survey along selected portions of the line. The known and potential historic locales present along the two lines are also included in the body of the report.

### Report Organization

This report of findings is organized with stress on integrating the findings and analyses of the disciplines involved in the study. For this reason, the findings of the various members of the research team are to be found in almost all discussions, regardless of chapter titles. This is particularly

true of the final portion of the report, which details the resources found in the course of the study (Chapters 5 and 6). These chapters draw on all possible data to contribute to the identification and analysis of resources.

Chapter 2 describes the environmental setting of the project area. The discussion of the paleoenvironment is particularly relevant to the understanding of the prehistoric cultures which lived in or used the area. It is only through an understanding of the earlier environments characteristic of the regions that the subsistence strategies of earlier inhabitants can be assessed. The interpretation of prehistoric sites within the project area depends a great deal on this understanding of what types of environment existed at the presumed time of the prehistoric deposits. Historic modifications of the local environment were also examined, a particularly important study since the areas along the river were heavily modified during the development of the delta levee system, the construction of the deep water channel, and the filling of natural low areas along the river course. These historical events not only affected the area's historic settlement and use-pattern, but they actually may have covered prehistoric materials and sites adjacent to these low areas along the river.

The third chapter provides an expansion of the archaeological overview presented in the earlier TCR report. This expanded overview draws more heavily on the results of current field investigation as well as on consultations with professionals familiar with the region: all of these were tasks beyond the scope of the original overview project. In addition, this chapter describes the techniques and findings of the archaeological field survey. The justifications and findings of the test excavation of Ca-Sol-33 are described in the concluding portion of the chapter. Results of surface reconnaissance and test excavation are presented in Appendix C.

The ethnographic background of the project and transmission corridor areas is discussed in the fourth chapter. The ethnographic territories are shown on Map 2. The project area treatment is an expansion of an earlier overview prepared by TCR. At the time of the earlier overview examination, the waste disposal site was not considered a portion of the generation facility planning area; therefore, this site has been included in this discussion. An ethnographic overview of the transmission corridors, consisting of new information, is presented in this chapter. The last portion of the chapter details concerns of the modern Native American community regarding cultural resources related to their heritage. The early demise of Indian cultures in the immediate area of the Delta, a result first of Spanish/Mexican and later of American settlement forces, produced an almost total lack of contemporary knowledge about these early cultures. Native Americans are nonetheless concerned about the disposition of heritage related resources such as archaeological, burial, gathering, and sacred/ceremonial sites.

The history of the area is presented in Chapter 5. Again, an expanded version is presented as an enlargement of an earlier overview. This expansion was possible due to the abundance of new archival and oral materials made available by the intensive fieldwork program. A new overview has been prepared for the two transmission corridors, indicating potential and known historic sites of interest and possible significance. This chapter incorporates new perspectives on the history of occupation and use of the project area. An analytic approach is used which emphasizes the landscape as a whole in examining specific historic events and historic remains. An inventory of historic sites in the corridors completes this chapter.

Chapter 6 presents an inventory of the resources located in the project area (other than the transmission corridors). These are resources identified by archaeological survey, his-

torical investigation, and oral interview techniques; in most instances they are described and assessed by use of data from all components of the research. The resources are described by "resource regions" which are shown on Map 3, and they include the following locales within the project area:

The Hastings Adobe Area is comprised of the historic adobe and the surrounding territory associated with the occupation of the adobe and its related activities such as ranching. In light of the large complex of resource elements in the area, it was considered appropriate that the Adobe be given specific consideration as a resource location.

Another resource region is the Stratton Lane area, which includes the locations of a number of moderate agricultural enterprises and dwellings, as well as the sites of an early church and a public school which served the nearby community of Collinsville and ranch families in the area.

Lower Collinsville Road, from Stratton Lane north to Talbert Lane, forms the next resource area. It is characterized by a very high incidence of historic remains, often overlapping or adjacent to one another. The oral testimony, and to some extent the documentary record, has been able to sort these deposits into discrete historic sites or locales; however, many of the finds are as yet unidentified. The historic intensive use period of this area includes not only the mid-to-late 19th century but the activities of a very large cattle company in the early-to-middle part of the 20th century as well.

The area along Collinsville Road from Talbert Lane north to Birds Landing has been designated as another resource region, although characterized by much less dense occupation and land use. Habitation centered on a number

of large ranches along the road, with connected land holdings on the west and east of the road. These were grain and sheep oriented enterprises and the remains in the ranchstead areas, as well as the contemporary look of the landscape, are indicative of this pattern of development and use.

The Birds Landing area is designated as a discrete resource region since it represents a town or village site in a sparsely populated agricultural zone. Birds Landing, along with Collinsville to the south, was a locus of economic and cultural activities for the surrounding community. It was the location of a number of mercantile buildings such as shops, markets, social clubs and hotels. Some of the earlier structures are still standing while others are possibly represented in the form of historic debris and remains of buildings and foundations.

The Railroad Corridor north and south of Birds Landing is designated as a separate resource region. The density of historic sites along the northern section of this corridor is much less than that to the south, although the remains of at least one large ranchstead were located, as well as a number of other deposits. Along with the railroad corridor to the south, the railroad improvements in this area have been given special attention as potential historic remains.

The Waste Disposal location to the northeast of the railroad corridor forms the last area of consideration within the generation facility region. It is characterized by the remains of agricultural endeavors such as dwellings, barns, wells, and reservoirs, features that are characteristic of the area north of the Montezuma Hills.

The resources described in the inventory have been divided into the above regions in order to facilitate exposition, as well as to categorize resources into groups of sites which share some geographic and historic similarity. The regional approach outlined above approaches this goal.

## CHAPTER 2

### ENVIRONMENTAL SETTING

The project area is located approximately 32 miles northeast of San Francisco near the confluence of the San Joaquin and Sacramento Rivers. The plant site is located on the north side of the Sacramento River where the Montezuma Hills meet the River. The utility corridor extends north from the plant site area about seven miles along the old Sacramento Northern Railroad alignment to Highway 12. The waste disposal site is located about nine miles north of the plant site and the transmission line corridors are located between the plant site area and the existing Midway substation south of Highway 580, about thirty miles to the south. The environmental setting generally characterizes the paleoenvironment, the historical modifications that have occurred, and finally the existing environment of the overall area covered by the various aspects of this project.

#### Paleoenvironment

The paleoclimatic history of California, including the Delta region, appears to be consistent with that of other arid regions of the West (Moratto et al. 1978). The Holocene (recent) epoch witnessed six relatively cool/moist periods separated by five warm/dry intervals (Moratto et al. 1978). The Altithermal, perhaps the most significant of the warm/dry periods, ended about 2900 B.P. (Before Present), followed by a

period of 1400 years of cool/moist conditions. This cool/moist period was followed by another warm/dry period until about 600 B.P. The climate has remained the same since that time (Moratto et al. 1978). The biological manifestations occurring within the project area should have reflected the last and still continuing climatic condition.

The Montezuma Hills once supported a vegetative community of perennial bunchgrass, extending from about the ten foot elevation upward to the crest of the rolling Montezuma Hills. It supported many of the wildlife species necessary for subsistence of the Native Americans who exploited this area. Large herds of antelope and tule elk roamed the territory, and several elk tooth ornaments and antler tools (that may be elk) were recovered by a collector many years ago from Ca-Sol-34 (a site located adjacent to the project area just west of Collinsville [see Appendix D for a description and discussion of this collection]). The earlier bunchgrass community was replaced by introduced grass genera such as Bromus, Festuca, and Avena after heavy grazing or cultivation that occurred late in the 19th century.

Below the ten foot elevation were the permanent and seasonal marshes. The seasonal marshes were inundated by high water for a few months of the year but dry through the summer and fall. The permanent marshes supported aquatic and riparian vegetation on a year round basis and were comprised of many genera but primarily Scirpus (tules, bulrushes), Carex (sedges), Juncus (rushes), and Typha (cattails). The vegetative materials as well as the wildlife found in the marshes were of extreme importance to the local Native American populations. The great marsh in the study area extended south, east, and west of the plant site and covered most of what is now the Delta region, except for the sandy alluvial strips between the major waterways. Many of these natural levees, which remained

above water, supported Indian villages (Bennyhoff 1977). Willows, cottonwoods, and sycamores grew in abundance along the main watercourses.

Dominant among the wildlife in this area were the large herds of tule elk (Bennyhoff 1977). An abundance of waterfowl wintered in the Delta, including geese, ducks, cranes, and herons. Fish such as salmon, sturgeon, perch, lamprey, and catfish were plentiful in the Sacramento and San Joaquin Rivers. The paleoenvironment, then, provided bountiful food and fiber for the Native Americans residing in the project area.

#### Historical Modification

Agricultural development is among the most pervasive historic activities which contributed to modification of the environment and landscape. The soils characteristic of the Montezuma Hills area are high in clay and are referred to by local ranchers as "adobe soils." This characteristic, in association with the virtual lack of watercourses in the Montezuma Hills area, has contributed to the development of a particular style of dry-land agriculture and grazing. Agriculture in the project area competed successfully with native flora, particularly native grasses, and also served to diminish the range and habitat available for native animal species.

The first recorded agricultural uses of the area were cattle grazing and dry grain farming, primarily of wheat and secondarily of oats and barley. An enthusiastic recitation of the virtues of the region appeared in the San Francisco Morning Call of March 11, 1884. Claims of extreme success were being made for the wheat crop and the yield of hay. The article remarked that the marsh areas along the river were used successfully for vegetable gardening and that potatoes of good quality were producing well. Consultants contacted in the area

remarked that cattle did poorly on the hilly areas of the region, due principally to the stickiness of the soil when wet.

A special cultivator developed by Blackwelder's Blacksmithing of Birds Landing was effective in tilling the steeper portions of the hills. The steep terrain required that large teams, often using up to 30 head of horses, be used to pull cultivators and especially, harvesters in the hills. The first tractor brought into the area is reported to have been purchased in 1917 (TCR Field Data).

Several consultants, many of whom are descendants of early settlers, feel that the quality of the soil, in terms of productivity in grain crops, has dropped steadily. A pattern of land use was developed early in which crop rotation, fallow periods, and grazing were combined to rest and reconstitute the land. Sheep have almost entirely replaced other livestock in the grazing operations in the project area, due, according to consultants, to their ability to tolerate the sticky winter soil conditions in the hills.

The constant (yearly or biennial) cultivation of almost all lands within the project area, in combination with sheep grazing has resulted in substantial soil disturbance, possibly involving the destruction of evidence of prehistoric or historic use of the area. A notable example of this occurred during the 1930's when a feedlot operation was leveling mounds in nearby fields in preparation for planting feed crops. Unfortunately, the "mound" was the remains of an important village site (later numbered Ca-Sol-34) containing numerous burials and associated artifacts. It is not known if similar instances have occurred in the remainder of the area, although it seems likely that surface remains would not remain intact long under the pressure of such constant tilling and grazing.

Recreational and commercial or market hunting have also contributed to the drastic changes in the faunal population of the area. Frost (n.d.) notes that the last of the Tule Elk in the area were killed near Birds Landing in the 1860's. Field consultants, with many years of experience in the area, remarked on the number of racks of antlers they found in fields, testifying to the size of the herds in the area before the coming of the settlers. The Morning Call article of 1884 also remarked on the demise of native animal species:

Vast herds of elk and coyotes inhabited these wilds, and in the fall and winter the adjacent hills were the annual resort of geese and ducks. Of the wild animals that once roamed and fed at will, not a coyote, nor even a badger remains. A few racoons live in the tules, and a few beavers and otters still have their houses in the little sloughs [San Francisco Morning Call 1884].

Duck and goose hunting were important commercial activities along the River and sloughs. One field consultant stated that live decoys were used to bring in hundreds of geese for hunting parties. Any hunt which produced less than 200 geese for a few hunters was not considered successful. Apparently the same held true for other types of migratory waterfowl. Many of the field consultants remarked on the dramatic decrease of waterfowl in the project area, even from the early part of this century. Between 1880 and 1900, a number of duck clubs were established in the project area and man-made duck ponds were common (TCR Field Data).

Reclamation of tule lands in the delta began in the 1850's. An Act of Congress in 1850 deeded swamp and overflow lands to the state and the proceeds from their sale were designated for construction of levees and drains (Dana and Krueger 1958:244). During the 1870's and 1880's, Chinese labor crews were brought into the area from San Francisco to construct levees along the Montezuma Slough. Levees built during this time were characteristically 18 inches high and were con-

structed of sod slabs, each approximately two feet by seven inches (Chinn 1969:56; Frost n.d.). Chinese crews remained in the area to maintain the levees.

After 1900, flood damage necessitated extensive repairs to the levees along the Sacramento River. A series of violent floods between 1902 and 1909 demonstrated the need for a flood control plan of massive proportion. The Sacramento Bee in 1902 published an article delineating various proposals for disposing of winter flood waters and for eliminating the deposits of sand and silt which had accumulated in the River below Collinsville (Sacramento Bee 1902:July 26). The lowlands and hollows of the Montezuma Hills were the targets for a number of land modification efforts. In 1913, under the auspices of the California Debris Commission, dredgers began the work of opening the mouth of the Sacramento River to remove the accumulation of mining debris that had choked the river and prevented the flow of high waters (California, State of 1978:20). During this time peat was pumped from the river into a ravine north and east of the plant site, and the Marshall Cut near the Hastings Adobe was dredged. One consultant who described the dredging of the Marshall Cut explained that the dredgers churned up sediment from the river channel and the mud and water were piped onto the lowlands. Pipes were set on pontoons and spillways were built to return excess water to the river. Another water reclamation plan in the 1920's, unsuccessfully proposed to pump silt and river sand into the lowlands as far as Talbert Lane (TCR Field Data).

The most ambitious land modification efforts came during the 1930's, when the Corps of Engineers pumped tons of sand from the Sacramento River onto the low tule marshes near Collinsville. Under the Flood Control Act of 1928 the federal government assumed most of the costs of this massive project (California, State of 1978:20). The fertile tule marshes along the riverbank and north of Collinsville were filled by the sand

pumped in during these operations. Although some efforts were made to preserve the natural fertility of the soil (Sacramento Bee 1934:9) the fill drastically altered the character of the land. The level of Collinsville, a town built on stilts over the marsh, was raised several feet. Lowlands north and south of the Collinsville school had been rich pasturage for local dairymen, and the swampy areas had attracted great numbers of waterfowl and were considered a "haven" for duck hunters. One consultant remembered that, once flooded, the swampy area between Collinsville and Stratton Lane would contain standing water all year. The sand pumped onto the land raised the level of these marshes and minimized the chronic flooding in the area, although some of these areas have settled since then, and standing water can be seen in the low spots. The sand-filled marshes no longer support grazing operations and do not attract duck hunters (TCR Field Data). The modification of the natural landscape, therefore, has had long range effects on the economic environment as well (Plate 1).

The commercial development of the Montezuma Hills region has also played a part in the historical modification of the land. The earliest to settle in the plant site area was Lansford W. Hastings, who constructed an adobe structure in 1846, on a headland north of the Sacramento River. In 1857, James C. Collins began purchasing swamp and overflow land along the river for a townsite. In the following two decades, the townsite developed into a thriving commercial fishing village and attracted a number of businesses to the area. North of that city, John Bird had established the community of Birds Landing. Built at the confluence of two small streams and at a crossroads between communities, the town became a social and trading center for surrounding farms. Typical land modifications associated with these communities included dwellings and accessory structures, cellars, cisterns, and wells. That the environmental setting was taken into account during the development of these communities is shown in the architecture of

PLATE 1

AERIAL VIEW: COLLINSVILLE, COLLINSVILLE ROAD  
AND STRATTON LANE

The western portion of the project area has been extensively modified. Collinsville, in the central foreground, is surrounded by sand and silt fill pumped from the river during a series of reclamation projects begun in the early 1900's. Areas of this fill are beginning to settle, marked by light areas in the center right of the plate. The town has been protected from seasonal flooding by low levees, the first of which were built in the late 1800's. The "cut," running from lower left to upper right, is characteristic of artificial inlets used in the shipment, usually by barge, of grain and livestock and ranch supplies. Historic ranchsteads are scattered along Collinsville Road in the upper portion of the plate. Eucalyptus groves to the west of the road are typical of these early agricultural settlements. The road separates the marshy lowlands to the west from the drier rolling Montezuma Hills formation to the east.

(TCR-M 1+2/22[9]:3/13/80)



Plate 1  
Aerial View: Collinsville, Collinsville Road and Stratton Lane

Birds Landing. Structures in the southeast quadrant of that town were originally built against the hill, using a raised cellar, to maximize the insulating properties of the earth during the hot summer season (TCR Field Data).

### Existing Environment

The Montezuma site is located near the eastern end of the Carquinez Straits. During times of differing air pressures, the Straits form a wind corridor between the interior valley of California and the Bay Area. Mooney collected wind speed and direction data from May 1970 through April 1971 (as cited in Hales 1978:5) and found that the prevailing winds from the west or west-north-west between April and October averaged between 12 and 15.6 m.p.h. The prevailing wind direction changes and blows from the east-south-east from November through March, with a drop in the average speed to 7.5 m.p.h. The winds are frequently gusty and reach three to four times their average speed.

The existing biological environment (flora and fauna) of the project area has been thoroughly described by PG&E in their Notice of Intention (PG&E 1977), and will only be summarized here. Nearly all of the prehistoric vegetative communities once present in the project area have been eliminated or altered. All of the Montezuma Hills above the ten-foot elevation are in a rotational crop system and have undergone cultivation for the past century or so. The remaining portion of the project area has been divided into categories such as upland grassland, permanent marsh, swale, Delta riparian shrubland, and cottonwood-willow thicket (PG&E 1977). Each vegetative cover type is characterized by the presence of certain dominant species. The boundaries, areas, and distribution of these cover types change from season to season and year to year (PG&E 1977).

The rotational cropland occurs at elevations ranging from 10 to 20 feet, much the same as perennial bunchgrass. These fields are usually planted to a dry crop one year and left fallow the following year. The grassland cover type occurs at elevations of 0-80 feet and occupies the flatlands bordering the river inlets and the seasonal and permanent marshes (PG&E 1977). Occasionally, woody plants (such as willows) invade this cover type, normally consisting of genera Festuca, Bromus and Erodium. The permanent marsh vegetative cover occurs along the edge of the "Duck Club," Marshall Cut, along the edge of permanent water sources, and along the River's edge. The primary vegetation includes Scirpus (rushes), Salicornia (pickleweed), and Typha (Cattails). Seasonal marshes occur in those areas which are inundated for three to four months every year, and are stable as long as water is present; but when water levels fluctuate and the marsh is drained, the area becomes barren because of saline soil conditions (PG&E 1977). Species in a seasonal marsh are similar to those in a permanent marsh. The Delta riparian shrubland cover type is located along the Marshall Cut and the shoreline of the River. The dominant species include arroyo willow (Salix lasiolepis), California blackberry (Rubus vitifolius), and California rose (Rosa californica). A cottonwood-willow thicket is located at the end of the Marshall Cut and contains a few large cottonwood trees and two species of willows (Salix hindsiana and S. gooddingii). The grassland vegetative cover type occurs on the waste disposal site and on the hills along the transmission corridors. The dominant genera include Erodium, Hordeum, Bromes, and Avena. Vernal pools can be found within the grassland cover type in the disposal area and are characterized by species such as coyote thistle (Eryngium vaseyi) and gold fields (Baeria fremontii). Eucalyptus groves can be found around many of the historic and present farms of the waste disposal, utility corridor, and plant site areas.

The wildlife habitats are directly linked to the various vegetative cover types. The differences in wildlife values depend upon the vegetative type and the varieties of species it is likely to support. The Delta riparian shrubland ranks as the most important as well as the largest vegetative cover type; the rotational cropland ranks last in value to wildlife species. The Sacramento-San Joaquin Delta at Collinsville provides an essential habitat (passage, feeding, spawning) for several species of fish and their food supply (PG&E 1977). The most significant of these are the anadromous fish including the king salmon, steelhead trout, striped bass, American shad, and the white and green sturgeon. Striped bass, catfish, and sturgeon are important local recreational fish.

## CHAPTER 3

### ARCHAEOLOGY

#### History of Regional Research

The history of research in the region of the Delta and surrounding areas of the Sacramento-San Joaquin River systems paralleled and was an integral part of the developing interest and research in the prehistory of California. In the 19th century, the Spanish, Mexicans and Anglo-Americans did not concern themselves with the origins and past of the peoples and cultures they helped to decimate or destroy. The period may be characterized, at best, as a time of collecting and looting artifacts and sites for curios. The discovery and ensuing controversy over human remains and artifacts in Pliocene graves of the Sierra Nevada was more a reflection of contemporary intellectual discussion on the antiquity of Homo sapiens than it was an interest in early Indian cultures (Holmes 1901; McGee and Thomas 1905; Whitney 1867).

Not until the early part of the 20th century did the study of California and Delta prehistory begin. Both professionals and sophisticated amateurs made significant contributions during this period. In 1900, P. M. Jones systematically excavated in the Stockton area for the University of California, Berkeley, under the sponsorship of Phoebe Hearst (Jones 1922; Ragir 1972:2). In the early 1900's, Nelson surveyed in the area, including portions of the Montezuma Hills in the vicinity

of the proposed PG&E plant site (Nelson 1909). J.A. Barr and E.J. Dawson were two collectors and excavators whose careful and meticulous work resulted in the accumulation of important type collections for the region, and the resultant data laid the groundwork for later development of a local chronological sequence. Barr, working in the Stockton area, identified what he believed to be two cultural traditions based on artifactual comparisons (Ragir 1972:2). Dawson ultimately recognized and described three cultural traditions with probable chronological significance ("Early," "Middle," and "Late"). The result of his fieldwork was finally published in 1929 (Schenck and Dawson 1929).

Long-term professional research in the region was initiated in 1933 when the first archaeological field class from Sacramento Junior College was formed under the direction of Dr. Jeremiah Lillard (Towne 1976:41-47). This program of field investigation in the Sacramento Delta area intensified until 1940, and the onset of World War II. The Department of Anthropology at the Junior College published a monograph on the first systematically controlled excavation in a Central Valley site. The authors discussed what was tentatively described as "Early," "Intermediate," and "Recent" (historic) cultures based on artifacts, burial orientation and the physical condition of the osteological remains (Lillard and Purves 1936). Later, additional work confirmed and refined this sequence, adding another culture between "Early" and "Intermediate." A synthesis of this research appeared in a publication which later expanded into the Central California Taxonomic System (Lillard, Heizer, and Fenenga 1939). This publication and its cultural sequence are still in use and have been further expanded and refined (Beardsley 1948, 1954; Elsasser 1978; Heizer 1949; Ragir 1972). Bennyhoff's continued work on seriation and refinement of the sequence, using grave lots and shell beads, remains mostly unpublished with the exception of his descrip-

tions of the Protohistoric and Historic phases of the Delta (Bennyhoff 1977:41-51). Fredrickson presented an alternative and longer system of classification for Northern California in general, including the San Joaquin-Sacramento River system (Fredrickson 1973, 1974).

There are a number of studies focusing on artifacts, sites, or problems which wholly or partially draw upon the Delta region's data base. Typological and formation/chronological ordering of a variety of artifact categories for California have included numerous examples from the area in question (Bennyhoff 1950; Gifford 1940, 1947; Nance 1970). A number of relevant studies of burials, burial orientation, and the chemistry of osteological remains have been published (Cook and Elsasser 1956; Heizer 1952, 1956; Heizer and Cook 1949; Heizer and Fenenga 1939; Heizer and Hewes 1940; Suckey 1975). Chemical and physical analysis of midden soils have also been conducted for sites in the study area (Cook and Heizer 1951, 1962).

More recently, a number of overviews, surveys, and test excavations have been carried out in the vicinity of the proposed PG&E Montezuma I and II plant site, and transmission corridors L and M. These have been undertaken by Jackson (Personal Communication 1980); Fredrickson (1968); Greenway and Soule (1977); McGonagle (1964); Seldomridge and Smith-Madsen (1976); Snoke (1965); and Soule (1976).

### Chronology

The Central California Taxonomic System was derived and expanded from the chronological sequence for the Great Central Valley and nearby areas (Lillard, Heizer and Fenenga 1939). This sequence initially consisted of Early, Transitional, and Late Horizon, further discussed by Beardsley (1948, 1954) and

extended to the archaeology of a far greater area than that of Central California. After Heizer substituted Middle Horizon for the Transitional (Ragir 1972:7), the term "Horizon" was no longer equivalent to a local temporal phase but was equated to a time period that "exhibits distinctive trait assemblages or cultural complexes" (Heizer 1948:2). These time periods are recognizable over a very large area, crossing differing cultural traditions as well as ecological areas.

Beardsley subdivided the Central California region into "zones" and "provinces" which are now referred to as "districts" (Beardsley 1948, 1954; Elsasser 1978:37). For example, there are the Cosumnes, Diablo, Sutter, Solano, and Stockton districts. Within districts are clusters of closely related sites with similar cultural attributes called "facies." The taxonomic system is familiar to all California prehistorians and almost all of the archaeological research in Central California has been cast in these terms; however, the system has come under attack. Gerow's work at University Village revealed the difficulty of cross dating and therefore, of extending the three-Horizon taxonomy beyond the Great Central Valley. On the basis of traits, Beardsley (1948, 1954) assigned the earliest components of the Emeryville, Ellis Landing, and West Berkeley shell mounds as contemporary to the Middle Horizon (2000 B.C. - A.D. 300), and as a result, no Early Horizon occupation was demonstrated. Gerow's excavations revealed material that was contemporary with the Early Horizon, yet had more resemblance to the Middle Horizon shell ornaments (Gerow with Force 1968). Gerow argued that two distinct cultural groups were in fact reflected, that they were contemporary, and that they converged over time (Gerow with Force 1968:12).

No one denies the correctness of the cultural sequence of the Delta region; it has been confirmed both stratigraphically and with carbon-14 dates. However, Ragir (1972:4) points out

the limitation of a three-stage taxonomy in an area where four or more major cultural changes have in fact taken place.

#### Paleo-Indian Period (Post 10,000 B.C.)

There is no definite evidence of the presence of Paleo-Indian occupation (post 10,000 B.C.) in the Great Central Valley region. One must look to peripheral areas for insights into early Northern California occupation. Fredrickson (1974) and Wallace (1978a) recognize evidence of early occupation in the North Coast Range between 10,000 and 6,000 B.C., an era which Fredrickson refers to as the Paleo-Indian period. The Borax Lake site yielded fluted points and crescents from Tulare Lake in the Southern San Joaquin Valley (Riddell and Olsen 1969). The Borax Lake artifacts, though controversial, have long been considered by many to be very old (Tadlock 1966; Glennan 1971). Geologic investigations and obsidian hydration rim measurements led Meighan and Haynes (1970) to admit the possibility that the occupation might be as old as 10,000 B.C. Aside from the obvious fact that they hunted with projectiles, little has endured of the lifeways of the people at this time. Both Fredrickson (1974:49) and Wallace (1978a) emphasize the practice of large game hunting, although Wallace admits the probable taking of small game, waterfowl, and plants as well (1978a:25). If such Paleo-Indian occupation actually penetrated the Great Central Valley area, either the evidence has not been recognized or else it lies in the Valley's deep sediments.

A second, later tradition may also be recognized in Northern California--following and presumably growing out of the Paleo-Indian tradition--which appears to be part of the "Millingstone Horizon" (Wallace 1954). At Borax Lake this time period is represented by wide-stemmed Borax Lake points which had

obsidian rim readings suggesting a date of 6,000-4,000 B.C. (Meighan and Haynes 1970). Similar points have been found associated with milling stones in Central California (Orlins 1971, 1972). If such a tradition was present in the Great Central Valley area, evidence of this occupation is hidden in the sediments as well.

#### The Early Horizon - The Windmill Culture (3,000-1,000 B.C.)

The earliest evidence of widespread occupation of the Delta-Great Central Valley region comes from the Windmill sites clustered along the Cosumnes and Mokelumne Rivers and a single site near Stockton (Wallace 1978a:34). Major description and discussion of materials and observations that characterize this time period for the region may be found in Beardsley (1948); Elsasser (1978); Heizer (1949); Lillard, Heizer and Fenenga (1939); Olsen and Wilson (1964); Schenck and Dawson (1929); Wallace (1978a); and most extensively, Ragir (1972). Observations are based on only eight sites; two of these are cemeteries and the remainder are habitation sites. Aspects of the Windmill culture are still being debated, such as its origins, nature, and outside relationships to other areas.

Characteristic of the Windmill sites, and indicative of their considerable age, is their partial or complete sedimentary cover and later cultural refuse deposited after Early Horizon occupation. Characteristics that set this tradition apart from earlier traditions in Central California are the presence of more complex and varied artifacts than those existing prior to 3,000 B.C., heavily indurated site soils, and heavy mineralization of osseous material--all of which suggest antiquity (Beardsley 1948; Heizer and Fenenga 1939:381; Lillard, Heizer and Fenenga 1939:74).

A wide range of artifacts have been recovered from the various Windmill sites and a number of these are considered to be time markers. Characteristic ornaments of the Windmill culture time frame are large rectangular beads with ground surfaces, small rectangular abalone beads, and small whole olivella beads. Also characteristic are:

. . . perforated . . . charmstones, slender ground slate "pencils," thick walled conically drilled tubular stone pipes, a great abundance of whole or fractured clear quartz crystals, ground quartz crystals, predominance of stemmed type projectile points of chert or slate . . . [Heizer and Fenenga 1939:38].

Also characteristic of the period are turtle shell ornaments, human bone artifacts, antler fish spears, bead applique to crystals and charmstones using asphaltum, and unworked quartzite cobbles associated with burials (Heizer and Fenenga 1939:381; Ragir 1972). In addition, there are numerous general categories of artifacts that anticipate later types or persist into later times.

The nature of Windmill Culture subsistence and associated settlement patterns are only sketchily known due to the small sample of sites, emphasis on burials, and the somewhat ambiguous evidence for plant processing. The known sites occur in the lower Sacramento River Valley on the flood plain where low rises surrounded by lower areas subject to seasonal flooding result in thick deposits of silt (Wallace 1978a:32). The close proximity of riverine, marsh, and valley floor resources was the basis of Windmill economy and is reflected in these sites. An abundance of large projectile points used on spears or atlatl darts, as well as faunal remains recovered from midden deposits, suggest that hunting was a very important pattern of food procurement (Heizer 1949:30; Ragir 1972:99). Fishing

activities are reflected in the presence of bone fish hooks, gorges and trident antler fish spears, as well as in the remains of freshwater fish and turtles (Beardsley 1948:7; Ragir 1972:36). It has been suggested that hunting was the primary economic basis of Windmill culture, with fishing of secondary importance (Heizer 1949:30; Ragir 1972:99, 100).

There has been extended debate over the importance and nature of plant and seed exploitation in the Windmill culture. Heizer (1949:30) suggested that the scarcity of seed-grinding implements indicated an unimportant role for seeds. However, Gerow (1974:243) thought that seeds, especially acorns, were in fact exploited and that the rarity of processing implements was due to the greater importance of hunting and the possible use of wooden mortars and pestles.

Meaningful discussion of Windmill settlement patterns is precluded by the small, biased sample of sites available. Those documented are either burial sites or intensive habitation sites on low rises. Midden contents reveal a wide range of artifacts and food remains which, along with the depth of the cultural deposit, suggest sedentism, as does the evidence for year round burials (Ragir 1972:30; Schulz 1970:194). The range of food stuffs, and the better documented later patterns of summer/fall dispersal to temporary food procurement sites, suggests that the Windmill settlement pattern was almost certainly more complex and extensive than reflected in the archaeology to date.

Significant trade patterns for the Windmill tradition are reflected in the material from which many typical artifacts were manufactured. These patterns reflect not only the source of materials but the existence of contemporaneous peoples whose remains may or may not have been recognized to date. Olivella and haliotis shell for beads and ornaments were traded in from

the coast, while clear quartz crystal, chert, flint, and translucent limestone may have come from the Sierra Nevada to the east. Obsidian was apparently procured from the Napa region while asphaltum may have come from a source at Carquinez Straits (Heizer 1949:34; Heizer and Fenenga 1939:381; Lillard, Heizer and Fenenga 1939:35). What the Windmillers people traded in return can only be surmised: food perishables, raw materials, and craft goods, along with materials obtained from other areas.

Burials have provided not only considerable information on Windmillers material culture, but also some insights into the nature of socio-political organization as well. Disposal of the dead was primarily by interment at habitation sites or uninhabited cemeteries located on low knolls (Beardsley 1948:7; Heizer 1949:15-16). Typically, burials were extended, ventrally placed, with the head oriented in a generally westward direction apparently towards the location of the setting sun in the season of death (Lillard, Heizer and Fenenga 1939:24, 33; Schulz 1970).

Other modes of disposal of the dead are known for the Windmillers tradition, although these are uncommon compared to the extended ventral posture. Seven loosely flexed burials were discovered at Ca-SJo-68, all of which were middle-aged or old men and women (Ragir 1972:47-48). These may have been elderly individuals who, lacking relatives, were disposed of with little ceremony and grave goods. Cremation, once thought unpracticed in Windmillers culture (Heizer and Fenenga 1939:385), was occasionally an alternate mode of disposal as shown by the five cremations recovered at Ca-SJo-68 (Ragir 1972:91-92). One of these burials included the remains of two or more individuals, indicating that the multiple burial pattern, common in later times, apparently had its origins in the Windmillers tradition. Ragir (1972:92) suggests that cremation

may have been the mode of disposal for those killed away from home in order to permit transport of the dead back to their home village--a practice also true in late times. Grave goods--varied and often abundant--might include such items as shell ornaments, quartzite cobbles, ground stone implements, flake stone implements, bone tools, quartz crystals, points, charmstones, baked clay objects, and unworked bones (Lillard, Heizer and Fenenga 1939:33-34). Burials and grave goods also reflect social differences in Windmiller society. In contrast to pre-Early Horizon times, differences in amount and kinds of grave goods suggest different statuses and roles for the individuals in question. At Ca-SJo-68, Ragir (1972:96-97) notes:

The largest concentration of burials with artifacts is found in the shallow deposits of trenches F-J/N1-4, KO/N1-4 (the north-central and north-eastern mound). The greatest percentage of the central hardpan burials are of males. This suggests that men were given special attention in both grave accouterments and placement, while women, although frequent in the shallow layers, may have been deliberately buried in the less elevated western section of the mound. In general, burial position is less varied among women; however, the flexed burials may exclusively be those of old women.

Mortuary goods may mark the possession of higher status. Women are less frequently accompanied by artifacts than are men in all phases of mound occupation. Women and infant interments with mortuary goods are more frequent in Phases 3 through 5 than in the first and second phases. The change in associations may indicate a change in community status for women and infants during the period of mound use. The increase of grave goods accompanying women possibly represents the beginning of the transfer of the husband's or father's status to the woman, or the acquisition of status by women on their own merits, perhaps as magicians or curers.

Ceremonialism was well developed in Windmiller times as reflected in the archaeological record. As Heizer (1949:31) notes:

One of the most striking features of the Early Horizon Culture is its ceremonial development. Not only does this imply a previous history, it is also interesting because

the culture has a fairly respectable antiquity. . . they are, furthermore, tenacious and enduring traits in Central California, being known from the earliest recorded cultures to the ethnographic present.

Charmstones and quartz crystals are the most common examples of artifacts generally considered ceremonial in function. Wind-miller charmstones are usually long, spindle shaped objects, although there are other forms including the phallic (Ragir 1972). The majority of charmstones are made of hard exotic materials such as amphibolitic schist or translucent marble. All are perforated, apparently for suspension. The hardness and finish of the objects reveals extra effort and care in manufacture. Generally, they are not worn, battered or fragmented, so special care must have been taken for their use and protection, as would be consistent with their ceremonial nature (Heizer 1949:31; Ragir 1972:101). Ethnographic data suggests that Windmill charmstones may have been used in hunting magic or as sources of power (Elsasser 1955:29; Ragir 1972:101).

#### The Middle Horizon - The Cosumnes Culture (2,000 B.C.-A.D. 300)

Middle Horizon, or Cosumnes Culture traits include a wide range of elements. Holdovers from earlier times include such elements as metates, quartz crystals, charmstones, stemmed or concave based large projectile points, bones and antler strigils, unworked bird bones in burials, and bone tubes with cut ends (Heizer and Fenenga 1939:382). Elements unique to the period were cobblestone platforms for burials; fishtail-type charmstones; thin, steatite disc beads; thin, short, steatite tubes; perforated ground-slate pendants; and steatite and baked clay ear plugs. Also present are transversally-flaked concave-based obsidian projectile points; small, flat, circular olivella shell beads; disc beads; large, perforated abalone ornaments (often deeply serrated along the edge); mammal bone

whistles; antler projectile points; and other bone items (Heizer and Fenenga 1939:382; Lillard, Heizer and Fenenga 1939).

Economic activities were more clearly represented archaeologically for the Middle Horizon than for the earlier period, and the associated hunter-gatherer economy apparently broadened and intensified through time. Metates, mortars, and pestles were more common than in the Early Horizon indicating that seeds, nuts and probably other plant foods were important. The abundance of plant ash and charcoal in midden supports this view (Beardsley 1948:11). Bone awls and baked cookery stones were more abundant than in earlier times, suggesting the presence and importance of the acorn mush cooking technology using hot stones and baskets (Beardsley 1948:12, 13-14). Projectile points and faunal remains attest to the persistence of hunting (Beardsley 1948:11; Lillard, Heizer and Fenenga 1939:77). Evidence of the importance of fishing increases from the Early Horizon. Barbed-bone fish spear points and gorges, as well as bone mush gorges indicate a variety of procurement techniques (Beardsley 1948:12). In contrast to the earlier period, evidence for fishing and acorn-processing is far more abundant.

A larger and more widespread population than that of the Early Horizon is reflected in the more numerous sites (over 20) located in more diverse environments, including delta and high ground areas to the east and north of the Delta (Beardsley 1948:9). Cook and Elsasser (1956:43) discuss the likelihood that there are undiscovered Middle Horizon sites in the Delta covered by sediments. Ragir (1972:100) attributes the shift to a fishing-based subsistence economy as an important factor in the marked population increase reflected in the archaeological record.

Characteristically, habitation sites were close to water, either in the Delta or near streams (Beardsley 1948:9). The abundance of such remains as refuse, bones, ash, and charcoal indicate that, in contrast to Early Horizon sites, the sites of the Cosumnes Culture were intensively occupied, leaving deposits up to 100 inches in depth. House remains are poorly documented, but the presence of bone "thatching needles" reflect the mode of their construction (Beardsley 1948:12; Heizer and Fenenga 1939:389). The full range of temporary or seasonal exploitation sites is very poorly documented.

Due to their frequency and interest to the archaeologist, burials have provided much of the accumulated data on the Cosumnes Culture. Disposal of the dead at habitation sites is well documented, and the earlier custom of using special cemetery sites on sandy knolls apparently persisted into the early part of the Middle Horizon (Cook and Elsasser 1956). There is also some evidence for the persistence of extended burials into the early part of the Middle Horizon (Cook and Elsasser 1956; Lillard, Heizer and Fenenga 1939:177). However, flexed burials and cremation were the primary mode of disposal of the dead. Positioning of the dead was more varied, with heads being oriented to the east or south as well as to the west (Beardsley 1948:9; Lillard, Heizer and Fenenga 1939:77).

Categories of grave goods are similar to those of the Early Horizon. As Beardsley (1948:11) notes: ". . . considering only the uncremated burials, all settlements of the Middle Horizon strongly tend to distinguish a few select individuals by loading them with grave furniture and mortuary ornament, a necrologic practice what may reflect social privileges among the living." It is not clear whether cremation was also the privilege of high status of those individuals honored for death in battle. It is likely that increasing socio-political complexity is reflected in the archaeology of the Early Windmill and Cosumnes Cultures.

In addition to the ceremonial function of charmstones and shell ornaments, there are other reflections of ceremonialism in the Cosumnes Culture. Cup shaped stone pipes and bone whistles were used ceremonially in ethnographic times (Beardsley 1948:13). Quartz crystals, whole and broken, almost certainly had magical roles. Ceremonial breakage of objects with burials, ochre painting of offerings for the dead, and cobblestone platforms associated with burials are all practices ceremonial in nature. Of special interest are instances of purposeful interment of animals with offerings from the Middle Horizon. Articulated skeletons of coyote have been recovered from the Sacramento area and were buried in pits with beads, other animal parts, or crystals (Heizer and Hewes 1940). The suggestion here is that these and later animal burials are not evidence of "cults" but of a "generic" ceremonial attitude toward many different animals (Heizer and Hewes 1940:602). Such interments were to become more common in later times.

The Cosumnes Culture stands as a transitional period, not only in time, but as a point in the cultural evolution of interior Central California. It forms a bridge from the Early Horizon to the fully developed cultures of later times leading up to the "ethnographic" period observed at the time of European contact.

#### The Late Horizon - Phases 1-2 (A.D. 300-1770)

The Late Horizon is the final period of the three-tiered Central Valley Taxonomic system. It is represented by two notable Delta locales, the Augustine Site (Ca-Sac-127) and the Hotchkiss Mound (Ca-CCo-138). Both sites were excavated some time ago and references were published by Lillard and Purves (1936), and Lillard, Heizer and Fenenga (1939). In general, Late Horizon sites were rather large and contained as many as

200-500 people. They were usually located on knolls and low mounds in the alluvial deposits adjoining rivers and streams (Johnson 1978).

The Late Horizon is subdivided into two distinct phases. Phase 1 characterizes the late prehistoric period, and Phase 2 represents protohistoric times. Artifacts and cultural traits diagnostic of Phase 1 include flexed burials oriented in a westerly direction, and the continuation of cremation as another burial mode associated with grave offerings of basketry, fibers, and acorns (Beardsley 1948:17-18). Shell artifacts include small, rectangular olivella beads, haliotis ornaments, bone beads with an occasional constricted waist, tubular bird-bone ear or hair ornaments, and charmstones (some phallic in shape). Other artifacts include small obsidian projectile points and crescent shaped "Stockton curves" (Heizer and Fenenga 1939:Figure 2).

Phase 2 of the Late Horizon is commonly characterized by disc beads made from clamshell (Beardsley 1948:18-19; Bennyhoff 1977). Other material includes wooden fishhooks, incised bird bone whistles, bird effigies made of baked clay, turquoise disk beads, three-quarter grooved axes, and square, serrated projectile points (Beardsley 1948:19).

The beginning of the Late Horizon was marked by a shift from dart and spear throwing to the appearance of the bow and arrow. Obsidian points were much smaller than those associated with the Middle Horizon and usually weighed less than five grams.

Procurement of vegetable goods, particularly the acorn, was carried over from the previous Middle Horizon and was very important, as suggested by the number of pestles and manos found during the course of excavation. Hunting was also an

important economic activity although not as valuable as the gathering of plant foods. Smaller animals were pursued more often than larger game. Fishing was also undertaken, as evidenced by the presence of wooden and bone fishhooks in the archaeological deposits.

Burials and cremations were favored interment patterns. Burials were often devoid of grave goods--more so than cremations. This indicates that some kind of social ranking was in practice, with wealthy individuals being cremated with a variety of artifacts and grave offerings (Heizer 1947). Animal burials complete with grave offerings are also known for Late Horizon contexts (Heizer and Hewes 1940). Of special interest is the burial of a child five or six years of age with an immature bear, recovered from the Hotchkiss Site (Ca-CCo-138) (Cowan, et al. 1975).

Generally, it can be concluded that the Late Horizon represents the peak cultural development of the Native American period. The Indians in the Delta region were probably ancestors of the Northern Valley Yokuts and Plains Miwok who were identified in the region during historic times.

#### Historic Period - Late Horizon - Phase 3 (A.D. 1770-1880)

Archaeological information concerning the historic period is much scarcer than data concerning pre-contact times. In part, this is due to the rapid depopulation and abandonment of many traditional habitation sites (Heizer and Fenenga 1939:383). In fact, historic occupation has been recognized in only 24 sites in the region of the Great Central Valley, the majority of which are to the north of the project area (Bennyhoff 1977:43). It may be said that ethnographic and ethnohistoric data provide a clearer picture of lifeways than do archaeological data.

Technically, the historic period began when Cabrillo (A.D. 1542) and Drake (A.D. 1579) reached the California coast. However, these visits were brief and did not penetrate to the interior of the Delta/Great Central Valley area. Only later, with the settlement and missionization of California, did actual contact take place. Hence, 1769 has been designated as the real beginning of the historic period. After this date, the presence of European objects and other changes appear in the archaeological record.

Bennyhoff has long conducted extensive research refining the chronology of the historic period. He has published, in the archaeological record, a brief discussion of the major temporal divisions of the region's historic period. Those divisions are primarily based on the seriation of grave lots, especially ornaments (Bennyhoff 1977:41-46). He first recognized the early introduction and acceptance of steel files, the efficiency of which was apparently demonstrated by missionaries. Though the actual physical preservation of these files is extremely rare, the results of their use may be observed on abalone ornaments where they performed a more rapid and complete removal of the exterior surface than did traditional methods.

The most common time markers for the historic period are European manufactured items, especially glass trade beads, which are usually found, along with traditional ornaments, in graves at various sites. Bennyhoff recognized three periods and four complexes of beads (Bennyhoff 1977:43-45). These may be briefly described as follows:

#### Mission Period A.D. 1769-1838

Early (1769-1800) - Beads are small and variegated in size and color.

Late (1801-1830 A.D.) - Beads are small and round and of various colors, especially white, green, black, blue, and red with green centers.

Sutter Period A.D. 1839-1849

Medium-sized beads are present, especially white and red with green centers. The complex appears to combine earlier and later bead types and is therefore transitional.

American Period A.D. 1850-1880

Beads are a variety of shapes, colors, and sizes. Large numbers of clam shell beads and abalone ornaments, as well as large pentagonal abalone pendants, typify the period. Large number of European object are often present as well.

This sequence not only indicates the various stages of contact but also reflects the nature of the acculturation process which, above all else, characterized the lifeway of the Indians during the historic period. However, due to the scant archaeological material, little insight into acculturation has been possible. Ethnohistoric and ethnographic data have indicated that the historic period was one of increasing dislocation or disruption of traditional culture and population, as well as increasing acquisition of European materials and patterns which tended to modify or replace traditional items. The archaeological record, in its own imperfect way, confirms these generalizations.

One of the most dramatic changes in the historic period was the decline in use, and shift in the location, of a number of

sites as a result of European contact. This was primarily due to the incredibly rapid depopulation that resulted from missionization and disease and, in some cases, to the flight of Indians to avoid Europeans. Missionization primarily affected the people in the western portion of the Central Valley who were closer to the missions and their soldiers. Few Indians returned to their native lands after secularization in 1834-1836 (Bennyhoff 1977:1).

With the intrusion of Europeans, the resulting changes in landscape and depopulation must certainly have had an effect on traditional economic patterns. The persistence of projectile points and bone tools in the early historic period (Heizer and Fenenga 1939:392) reflects continued hunting, although the apparent decline of these artifacts in later times suggests either the disappearance of larger animals, a shift to European technology, or both (Heizer and Fenenga 1939:392). Carbonized fish nets point to continued exploitation of riverine resources at some level (Lillard, Heizer and Fenenga 1939:80). Pestles and carbonized basketry suggest continued exploitation of acorns (Heizer and Fenenga 1939:Chart 2). How swiftly pre-contact economic patterns shifted has yet to be investigated archaeologically, although it must be assumed that some disruption occurred over time due to European activities, access problems, and change in vegetation.

Trade patterns, old and new, were present during the historic period. Trade with Southern California tribes for shell beads via the San Joaquin Valley continued until the end of the mission period when it abruptly ended (Bennyhoff 1977:44, 45). Trade in abalone and clamshell beads from the coast continued and, in the case of clamshell beads, actually intensified over time (Bennyhoff 1977:43; King 1978:Figure 1; Heizer and Fenenga 1939:383; Beardsley 1948). Trade in obsidian persisted until substitute materials or European tools completely replaced the

earlier artifacts, a process which apparently occurred rapidly. If foods were traded, the evidence does not appear in the archaeological record. Trade for and acquisition of European beads and goods is reflected, and increases in the record over time. Glass beads were traded by the Spanish, Mexicans, fur traders, and Americans for goods and services from the Indians (Bennyhoff 1977:43). Undoubtedly, beads and other items were also traded among the Indians themselves, which would help to account for their distribution in the archaeological record. Bennyhoff (1977:45) believes that early mission beads reached a Plains Miwok village site via a traditional trade network from Southern California. By the American Period, not only did the amount of European goods increase so markedly that little of native manufacture remained, but money and entrance into the money economy is evidenced by coins at sites (Bennyhoff 1977:43).

Burial patterns were initially a continuation of pre-contact patterns, with both flexed interments and cremations with grave goods being recorded (Beardsley 1948:20; Heizer and Fenenga 1939:Chart 2). The amount of European grave goods increased over time, and the emphasis in burial practices shifted from cremation to an extended, traditionally European mode (Beardsley 1948:20). Often, individuals were buried fully-clothed and in coffins (Bennyhoff 1977:43). Persistence in the use of clam shell beads and abalone pendants, as wealth items and status markers was also apparent at this time.

Continued ritual activities deriving from pre-contact traditions are better documented in the ethnographic data than in the archaeology. In addition to the burial behavior discussed above, the use of red ochre, bone whistles, charmstones, and baked-clay bird effigies, and the persistence of "Stockton curves," all attest to the persistence of ritual behavior in the historic period (Heizer and Fenenga 1939:Chart 2; Schenck and Dawson 1929:357).

## Survey of Project Area

### Record Search

An archaeological and historical record search was conducted for the proposed project in order to determine the location of any previously recorded prehistoric and historic sites, as well as sites which are pending or listed on the National Register of Historic Places. The project area lies in portions of five different counties: Alameda, Contra Costa, Sacramento, Solano, and San Joaquin. Because of the dispersed nature of the project, the record search was conducted at three different Regional Offices of the California Archaeological Site Survey. Archaeological and historical data contained in Environmental Impact Reports and other documents on file in the Regional Offices at California State Universities in Sacramento and Sonoma were thoroughly examined. Stanislaus State College was queried regarding the location of sites in their area of responsibility. The University of California at Davis and the State of California Department of Parks and Recreation, as well as private libraries (TCR and AES), were researched. Specific sources reviewed include the following: Points of Historic Interest (California, Department of Parks and Recreation n.d.); California Place Names (Gudde 1974); Historic Spots in California (Hoover, Rensch and Rensch 1966); the National Register of Historic Places (U.S. Department of the Interior, HCRS 1979); California Historical Landmarks (California, Department of Parks and Recreation 1979); California Inventory of Historic Resources (California, Department of Parks and Recreation 1976); and California History Plan (California, Department of Parks and Recreation 1973).

Review of these historical records revealed that a number of historic locations lie within the project boundary. A discussion of these resources is given in Chapter 5, History.

Review of the prehistoric records revealed that 38 sites were located within one mile or less of the project area. Thirty-six of these sites can be found in Contra Costa County along the proposed transmission line corridor; however, no sites were located on or immediately adjacent to the proposed line. The other two sites can be found in Solano County, one within the project boundary (Ca-Sol-33) and one adjacent to the plant site (Ca-Sol-34). Ca-Sol-33 will be discussed in more detail later in this report and Ca-Sol-34 will be presented in detail in Appendix D.

### Survey Methodology

The plant site, utility corridor, additional plant site area, and the disposal area were systematically and intensively surveyed for evidence of prehistoric or historic use. Field teams composed of two to six members walked each section in parallel transects spaced approximately 15-25 meters apart. Extensive grass cover throughout most of the project area made surface inspection difficult at times; still, all areas were examined for cultural debris such as obsidian, chert, basalt waste flakes, shell fragments, deposits of occupation midden, bedrock mortars and metates; or historic pottery, porcelain, square nails, piles of lumber, privy or cellar depressions and other materials or features suggesting prehistoric or historic habitation. In locations where grass stands were particularly dense, small areas were cleared in an effort to improve ground visibility. A total of 6240 acres were surveyed in this manner.

A stratified sample of the transmission line corridors was surveyed. The choice of the area to be surveyed was based upon the likelihood of cultural features occurring in given locations such as streams, terraces, and springs. Upon review of the several U.S.G.S. Quadrangle sheets and the proposed trans-

mission line alignment, many potentially sensitive areas to be surveyed were indicated. The transmission line corridor was 1200 feet in width, stretching across the sensitive areas which ranged from 1000 feet wide to, in some cases, over a mile. A total of 31 sensitive areas (a net of 1900 acres) were intensively surveyed, except for about 60 acres on Corridor L where access was repeatedly denied.

Included as part of the survey was the monitoring of geologic trenching and boring, which occurred at the plant site while fieldwork was in progress. These activities were inspected by members of the archaeological field crew, an action undertaken because of the possibility of encountering buried cultural deposits in the area. A member of the archaeological staff monitored the first two days of core sampling, but further daily monitoring was not necessary since the engineering geologist was aware of the nature of archaeological, historical, and paleontological remains. However, examination of uncollected core samples left on the surface by the geologist were checked by archaeology staff at the end of each day. An archaeologist was also present at the monitoring of test trenching. The trenches, some extending to a depth of 20 feet, were nearly 50 feet long and about 3 feet wide. No prehistoric or historic material was uncovered during the course of the boring and trenching activities; however, some fossilized bone was uncovered and a report of that material is included later in this chapter.

#### Visibility of Cultural Resources

The general lack of heavy ground cover which otherwise would have obscured the ground surface resulted in a very high visibility for surface indicators of cultural resources. Almost all of the areas surveyed have long been intensively

cultivated and/or grazed so that very little undisturbed natural vegetation was encountered. A number of areas in the vicinity of the resource regions north of the Sacramento River were freshly tilled, exposing the entire surface to examination. Most of the area surveyed north of the River was freshly planted, left fallow following last year's grain harvest, or heavily grazed by sheep so that vegetation was low or cropped, exposing the surface to view. Many of the surveyed soils on the Sacramento River along the transmission lines L and M were similarly exposed by cattle grazing or cultivation.

In those few locales where vegetation was heavy, periodic exposure of parts of the surface, along with examination of stream banks and rodent backdirt, afforded a means, at least partially, of compensating for the lack of surface exposure. The only conditions that effectively prevented surface reconnaissance occurred in the low-lying lands between the River and the Montezuma Hills. Early 20th century filling operations pumped sand from the river to these areas and adjacent drainages, and many sections of exposed sand are visible today. However, these operations affected only a small part of the study area in places near the river which must have been subject to periodic flooding before the pumping operations took place.

Another factor that greatly facilitated the location of cultural resources in the resource regions north of the Sacramento River was the almost complete lack of naturally occurring stone on the surface. This area is characterized by fine clay sediments overlying older deposits, some of which contain gravel and cobbles (Hanson 1979:33). It was not uncommon for the survey team to go hours or even an entire day without encountering more than two or three isolated unutilized quartzite cobbles. All concentrations of stone, cement, wood, and glass were easily located and recognized as evidence of past

human activities in the area. No evidence was encountered of refuse or landfill trucked into the area. The surveyed portions of the transmission corridors L and M south of the Sacramento River were geologically different, with many rock outcrops and fragments. Such surface litter, however, did not hamper effective survey or recognition of cultural resources.

Other clues to the location of historic resources were easily detected, especially in the resource regions north of the Sacramento River. The presence of trees, windmills, or isolated barns have all proven excellent indicators of homesite locations. Nineteenth and early 20th century tree plantings, especially eucalyptus and palms planted around houses, remain today as isolated clumps of trees surrounded by large areas of low or grazed grasses. Standing or collapsed windmills and barns are frequently among the first clues to such homesites where the houses and other structures have been destroyed or removed. Apparently the usefulness of the barns and windmills resulted in their preservation and continued use. Such visible homesite remnants served as occasional guides or aids in locating the probable whereabouts of historic resources. Surface reconnaissance, however, was carried out systematically over the entire study area.

A number of historic homes are currently occupied and old barns are being used for fodder or other storage, and some abandoned structures have been left standing on working farmsteads. However, many other historic structures at homesites and other locales have been destroyed, moved, or dismantled for use elsewhere. It has not been uncommon for unused structures to be sold for their building materials, or for sections of structures to be incorporated into other buildings. At the Hagan homesite (Site H-55), for example, a now-abandoned house was constructed from segments of two or three 19th century structures of slightly differing styles, which were moved from

other homesites in the area. The Dadami warehouse, once located within the plant site area, was dismantled and its redwood timbers used for construction of homes outside the project area (TCR Field Data). Other structures which were in use until relatively recent times, such as the school and churches near Collinsville, have also been removed. This pattern of adaptive reuse of structures and recycling of building materials has resulted in a landscape with fewer signs of historic occupation than might otherwise be expected.

In spite of the loss of many historic structures, the study area as a whole may be viewed as relatively intact archaeologically. Modern construction and development has been minimal. Only the Antioch vicinity, and the area around the pumping station at the Bethany Reservoir in Alameda County, have experienced major construction and disturbance. As a result, there still remain considerable surface and subsurface archaeological resources that have the potential to yield significant data. These resources maintain their relationship to one another and to the landscape in situ and have not been heavily impacted by modern development. The only widespread disturbance of subsurface cultural resources was noted in the resource regions north of the Sacramento River. Surface observation and consultation with local residents indicate that many sites or dumps have been partially disturbed by relic or bottle collectors. These disturbances generally were restricted to privy holes and parts of visible surface dump deposits. However, the remains of these loci, as well as other areas of the sites, are still available for potential archaeological investigation. Household refuse, remains of activity areas, broken discarded bottles, as well as undiscovered dumps and privies remain for future investigation. This information has been confirmed by data derived from long-time residents of the area. The investigation team is confident that due to favorable environmental and surface conditions all surface resources were located and recorded.

## Determination of Resource Categories

All historic items encountered in the surface reconnaissance were recorded. These ranged from isolated items to complex aggregates of structural remains, surface scatter, and other features, such as homesites or other activity areas. Consultation with the various research teams facilitated the elimination of numerous recorded "loci" as either too recent or of no significance (for example, a single concentration of old fence posts). This elimination and assessment process produced a series of resource categories: sites, locations, and "non-sites," as described below.

Sites are those prehistoric cultural resources and historic cultural resources that are 50 or more years old, in which the archaeological remains and/or the historic or ethnographic documentation suggest that significant archaeological resources are present. Such locations (for example, habitation sites, homesites, churches, schools, rail sidings) have the potential for yielding significant archaeological data important to the reconstruction of the area's past.

Locations are those recorded cultural resources that are so sparse or so ambiguous in character as to preclude recognition as sites. These would be isolated finds, sites of questionable age, or materials representing a single aspect of behavior apparently related to activities at a site. Examples of locations would include an apparent barn foundation at some distance from a dairy operation (Location H-32), a windmill accompanied by a large depression with no surface refuse (Location H-59), or historic refuse or a dump with abandoned farm equipment (Location H-22). All have the potential to yield archaeological information and some may prove to be outlying features of resources

designated as sites; but lack of surface indications, historic and ethnographic documentation, and the paucity of remains preclude designation as a site at this time.

Non-Sites are those recorded areas where surface remains are isolated items, so sparse or so recent that no expectation of significant archaeological potential can be inferred from archaeological, historic, or ethnographic data. Included in this category are isolated horseshoes, piles of timber, homesites, or features built and used in the last 30 to 40 years. Non-sites are believed to have insignificant value in reconstructing the past and are not discussed below.

#### Summary and Discussion of Prehistoric Archaeological Resources

No previously unrecorded prehistoric sites were encountered in the 8140 surveyed acres of project area. Ca-Sol-33 and Ca-Sol-34 were relocated. The testing and re-evaluation of Ca-Sol-33 are described and discussed later in this chapter in Appendix C. Ca-Sol-34, immediately adjacent to the project area, was not evaluated nor tested, but a collection of artifacts taken from Ca-Sol-34 many years ago was located and a discussion of that collection and the relationship of the materials to the project area is presented in Appendix D.

Three isolated occurrences of prehistoric materials were encountered during the survey. Former students of the Willow Springs School, immediately south of Birds Landing, during the 1930's - 1940's, reported that they once picked up "arrowheads" in the schoolyard. Careful survey of the school grounds and surroundings failed to reveal any evidence of a prehistoric site at this location; however, subsequent disturbance throughout the past 40 years, such as leveling or covering of the schoolyard, may have masked or obliterated this possible site.

When a survey was made of the Winters' property in Birds Landing, the residents informed the survey crew that they had recovered an obsidian blade and point tip while excavating for a foundation footing on the north side of their house. It was also reported that historic debris (such as broken glass and metal fragments) were found at the same depth and in association with the obsidian artifacts. This location was carefully surveyed and no evidence of prehistoric activity was noted.

Upon surveying the Walter Bird residence between Birds Landing and Collinsville, the survey crew was informed by a long-time resident and collector in the area that a bowl mortar had been found in one of the dump sites used by inhabitants of the residence. The consultant stated that the mortar was found in association with debris and glass bottles dating from the 1930's.

It can be posited that since these isolated prehistoric finds were associated with historic remains, they may have been transported to these locations during historic times. It can also be surmised that Ca-Sol-34 could be the source of these artifacts. It is known that many artifacts were removed from that site during the 1930's by local residents, and that obsidian blades and bowl mortars similar to those described for Birds Landing are found in the collection of materials from Ca-Sol-34. This evidence is not conclusive, however, and the possibility of a buried or disturbed site at Birds Landing should not be eliminated at this time.

In addition to these artifacts, the survey of the Plant Site and Railroad Corridor located six isolated finds of ground stone, hammerstones, and a hard sedimentary rock core. No site designations were assigned. Other prehistoric materials were recorded during this survey near Bethany Reservoir, along proposed Transmission Line L. One obsidian chunk and three chert

flakes were found in a graveled parking area which had been extensively disturbed by construction of the South Bay Pumping Plant. This location has not been designated a prehistoric site because of insufficient evidence. Further discussion of this location is found below in the summary of findings for historic resources.

Site Ca-CCo-3, an isolated bedrock mortar feature, has apparently been destroyed by the construction of the dam across Marsh Creek. Due to the dense vegetation and the objections of the ranch foreman neither the prehistoric site of Ca-CCo-224 in the vicinity of the Marsh House, nor the apparent historic period post-mission settlement across the Creek, could be examined.

Locus 46P consists of a few fractured quartzite cobbles washed out of a creek bank in a meadow. These sharp-edged fractured cobbles may be described as crude choppers. Because quartzite is an extremely hard material, it is strongly suspected that these cobbles were manufactured. Similar objects recovered elsewhere, however, have generated considerable controversy (see Brott and Dotta 1978; Sundahl 1974, 1976). The present small surface sample lacks stratigraphic association and is designated as a locus only.

The scarcity of prehistoric finds in the resource regions encompassing the plant, disposal area, and rail lines should be addressed. Jackson's survey of a portion of the Montezuma Hills immediately to the east of the project area revealed a similar lack of cultural materials (Jackson 1976; personal communication 1980). The location of sites Ca-Sol-33 and Ca-Sol-34 would suggest that the ecosystem between riverine and interior resources was the preferred area for large, multi-activity village sites, the archaeological remains of which would include midden with depth, numerous artifacts and faunal

remains, and occasional burials. The suspected site at Birds Landing may have been a secondary site of this type. The remaining areas would have been exploited from such villages, and subsistence activities would be reflected by isolated artifacts or very small, surface, one-activity sites. Such sites or isolated materials would probably have been buried by colluviation. A mantle of river sand pumped onto the lowlying flat areas next to the river, as well as many drainages may well cover some prehistoric resources. On land not affected by this dredging, the visibility of historic remains on the surface suggests that prehistoric sites, if present, would have also been visible on the surface despite agricultural disturbance in the area. Therefore, it appears that significant prehistoric surface resources, in addition to previously recorded sites, are not present in the study area. This does not preclude, however, the possibility of subsurface resources.

#### Paleontological Resources

In the course of surface reconnaissance and trench monitoring seven examples of isolated paleontological finds were recorded. Loci I.F.-1 PAL (Isolated Find-1 Paleontological), I.F.-2 PAL, and I.F.-4 PAL are examples of fossilized bone fragments observed on the surface in the area of the plant site and slurry lines. A single locus, I.F.-3 PAL, along transmission line L south of the Sacramento River, was an occurrence of fossilized marine shell in a large fragment of rock.

Fossils were observed in a series of deep backhoe trenches excavated by geological consultants along the edge of the Montezuma Hills just north of Stratton Lane. Back dirt from Trench 4 yielded a fragment of fossilized bone. A small collection of fragmented pieces of bone were collected from the back dirt pile at the western end of Trench 5. Geologists

histories have pinpointed privy locations and other features not apparent during surface reconnaissance.

Test excavation and surface reconnaissance of the area, as part of the search for and testing of Ca-Sol-33, yielded abundant evidence of the potential for subsurface archaeological resource remains. Surface scatter, trash, and artifacts included buttons, bones, bottle and ceramic fragments, Chinese Celodon ware, coins, nails, wire, a crucible, and other items, some of which may date to the earliest occupation of the adobe.

The remaining seven historic homesites (1H, 2H, 4H, 6H, 8H, 61H, 65H) are distributed fairly regularly along both sides of Stratton Lane. All are marked by trees and, with the exception of Site 1H, have no standing structures. All are known to have had dwellings as well as other structures and features, and possess the potential for subsurface archaeological resources. A barn on Site 1H is intact; and at Site 6H, several privy depressions and a brick-lined cellar depression are visible. As a group these sites represent the archaeology of a neighborhood of rural homesteads spanning nearly a century of occupation. Ethnic, temporal, and occupational differences may well be reflected in the archaeology.

Four historic locations were also recorded in the vicinity of Stratton Lane. Location 62H is a scatter of historic debris on a hilltop north of Stratton Lane near Talbert Road. No evidence of structures or other activities was associated with this location, which might represent a distant dump or remnants of a badly disturbed resource apart from those along Stratton Lane. Location 10H is a concentration of refuse and debris that appears to be part of the dump associated with and located behind the historic community of Collinsville. Location 9H is a series of six posts south of Stratton Lane in a low-lying area; oral history data has identified this location as part of

a support for sand fill equipment used early in this century. Location 11H is a mounded area near Collinsville that may be a remnant of an abandoned levee.

#### Lower Collinsville Road

Eight historic resources were located along Collinsville Road from Talbert Lane south to Stratton Lane. Most of this area was part of the extensive E. I. Upham Ranch during the late 1800's, and was later subdivided into smaller parcels. Although many homesites would have qualified as sites if taken individually, much of the scatter and other related features cannot be related to a specific period; therefore, the entire area is being treated as a single archaeological site with various loci.

Three locations (20H, 24H, and 30H) are historic homesites. Location 30H consists of a small standing structure, a collapsed water tower, and a corral. Location 24H is comprised of two closely situated home locations. One of these consists of a cement foundation with associated debris, while the second is an intact house and associated shed. The surface area has abundant historic debris including glass, crockery, machine parts, and pipes and subsurface deposits are strongly suspected. Location 20H consists of marked surface scatter of historic debris including glass, crockery, metal fragments, and parts of harnesses. The location of this resource suggests that the refuse may be associated with the historic Donald Ranch.

Location 14H is a complex on the east side of Collinsville Road, consisting of two extant redwood barns and corrals, and the site of a blacksmith's shop. Surface scatter includes pieces of charcoal, wrought iron, and other fragments that show

evidence of iron-working. This location was part of the Upham Ranch complex. Several minor locations cannot be assigned to either the Upham Ranch complex or later periods of use. These features include a group of four historic farm machines and a windmill (Location 21H), a dense concentration of lumber and fence posts with round and square nails (Location 25H), and the site of a structure thought to have been a dairy barn (Location 32H). Location 32H is best seen in oblique late afternoon light when the rectangular outline of the structure is perceptible. Interior divisions of low raised ridges suggest the presence of stalls. Location 31H consists of several depressions near a modern building. Associated with these depressions are scattered timbers with round and square nails, as well as modern debris and trash. This location appears to be an abandoned watering feature apparently associated with one or more destroyed structures. One small depression may, in fact, be a well.

#### Upper Collinsville Road

Surface reconnaissance along the portion of Collinsville Road from Talbert Lane north to Birds Landing yielded three historic sites. This area represents an open, very sparsely populated area lying between the population concentrations of Birds Landing and Lower Collinsville Road/Stratton Lane. The sites recorded reflect aspects of the dispersed rural farming pattern of the region.

Site OOH is the Anderson Ranch and includes historic components as well as features indicative of its continuous occupation. Resources within a grove of eucalyptus trees on the property include a small single story redwood structure once used as a bunkhouse, a privy, abandoned privy holes and locations, as well as historic scatter. Subsurface resources are

undoubtedly present. Site 96H is the Bird homesite which includes historic features and structures and has been continuously occupied. A large grove of eucalyptus trees line the house, barns, and sheds on the north side of the property; other structures include a garage and many smaller sheds. Two dumps located adjacent to the site appear to be associated with two distinct occupational periods. Materials taken from a privy location date to the late 1900's. Subsurface resources are still present at this location.

Site 33H consists of a collapsed redwood barn measuring approximately 15 meters by 29 meters. Oral history data revealed that a house, once associated with the barn, had been occupied in succession by the Dinkelspiel, Halloran, and Snyder families. Historic litter, fencing, and debris are scattered over the area and subsurface resources are almost certainly present.

#### Birds Landing

The crossroads community of Birds Landing is viewed as a single resource area rather than as many discrete sites. As this resource area is now, and has always been, an integrated and contiguous cluster of homesites and "public facilities," it constitutes a community and as such is considered to be a single occupation site in the true archaeological sense. Today Birds Landing consists of a mixture of historic buildings, some of which have been modified, areas where historic structures and features once stood, and some recent construction. Extant historic structures and resources are discussed in Chapter 5 and 6 in this report; results of archaeological reconnaissance are presented in this chapter.

In addition to extant structures and a general scatter of historic materials present throughout the area, the locations

of five historic archaeological resources were recorded. The process of locating these resources was facilitated by information provided by documentary and oral historic data.

Location 80H is the area where the Odd Fellows Hall once stood. The observed archaeological remains at this location consisted of a thin scatter of late 19th century glass, ceramics, and a metal button. No architectural remains or other features were recorded. At Location 81H, where a hotel stood prior to 1909, the field surveyors recorded a scatter of historic glass fragments and a privy hole that had been dug up by local bottle hunters. Items recovered included a wide range of bottle and other glass containers dating to the second half of the 19th century. Location 82H was the lot where the Union Hotel once stood. No architectural remains were observed, although extensive glass and metal scatter were observed on the surface. Some of this metal may have come from the nearby blacksmith shop. A large (8 feet by 10 feet) privy depression was present and is apparently still intact. It is suspected the hotel structure was located where a modern house now stands. Location 83H was recorded in the area of the old blacksmith shop. Apart from rusted metal fragments in the adjoining Location 82H, the only surface feature was a privy depression. Features of the blacksmith shop may be present as subsurface deposits. Location 84H is a late 19th century dumpsite characterized by a wide range of bottles, other glass containers, and debris that washed out of the streambank. Although road construction has disturbed and partially covered this particular deposit, remnants are believed to remain.

Recent structures overlay many of the historic archaeological locations in Birds Landing, and modifications of historic structures and loci in the community continues at present. These factors have undoubtedly obscured evidence of other historic archaeological features; as a result, the potential for

archaeological resources in this area is much greater than the number observed in the field reconnaissance.

### Railroad Corridor

Five historic sites and two historic locations were recorded in the course of surface reconnaissance of the railroad corridor right-of-way. The small number of recorded historic resources is due to the fact that the existing rail right-of-way avoided historic roads for most of its length. The historic sites and locations that are recorded along the proposed railroad corridor are of two types: those that represent or relate to historic rural homesteads and agriculture, and those associated with the location and use of the existing railroad line.

The entire length of the existing Sacramento Northern Railroad alignment that was surveyed is virtually intact; such features as bridges, overpasses, and raised beds of cobble and earth are present and in essentially the same condition as when abandoned. The existing rail alignment cannot be considered a site or a location in the sense applied to other resources in this study and is perhaps best viewed as a feature or landmark of the environment, as are old historic roads and water courses along which historic sites and locations were placed. Two such historic sites were recorded along the railroad corridor. Site 28H is the location of the siding at Montezuma Station. Today the site is characterized by a large area (140 meters by 150 meters) of historic material scatter, machine parts, wagon or rail car beds, and the foundations of several structures. A large canal and holding pen complex associated with a loading shoot and rail siding is also present and may be as old as the rest of the site. A small, abandoned house and remains of a garage, both more recent than the other features, are also

present. There has been considerable ground disturbance, yet the potential for subsurface historic resources is high.

A second such site is the Molena Rail Station, Site 45H, also located on the old Sacramento Northern Railroad line. The site consists of remnants of residential and rail-related materials. A large aluminum-sided granary warehouse associated with a rail spur dominates the site. Nearby are a platform scale and a metal tower frame. The location of at least one house is evidenced by a cement house foundation with a garage and two widely-spaced privies. Trees, grapevines, a windmill foundation, and a metal shed are also present at the site. Surface features, as well as considerable surface scatter, suggest the presence of subsurface resources.

Sites 47H and 48H are two homesites associated with the rural farming pattern of the area. In each case the houses have been destroyed or removed, leaving cellar depressions as indicators of their previous locations. Site 48H, the historic William Donell Ranch, also includes a standing redwood barn, a small redwood shed, a windmill, a privy and related pits, and a large, semisubterranean circular brick-lined cistern. The archaeological potential of the site is considerable. Site 47H is similar, if not as extensive as 48H. In addition to the house cellar depression, features at site 47H include a corral, a water tower, a depression that may be the remains of a root cellar, and a rectangular depression with sewer pipes that may be a "modernized" privy or similar convenience. A subterranean cistern is also present. Site 47H is apparently the Thomas T. Hooper homesite (Thompson and West 1878b:Map).

Site 41H may be another homesite or perhaps the remains of a cluster of more specialized farm buildings. Significant features at the site include a broad wooden "platform" that may represent the floor of a destroyed structure or pen; impres-

sions of the footings of another structure which is associated with two metal pipes; and a depression with an upright metal pipe that suggests another structure associated with a watering pond. Isolated upright pipes and historic debris are also present.

Two historic locations were also recorded in the survey of the railroad corridor. Location 46H is a concentration of historic refuse that may be a dump associated with the Ghigholi dairy. Location 39H is apparently the remains of a round, wooden cistern, now collapsed and disturbed. A water trough and a small pump house are also present and presumably relate to the use of the cistern.

#### Waste Disposal Site

Five historic sites and five historic locations were recorded for the area of the proposed waste disposal site. The area is relatively flat terrain beyond the northern edge of the Montezuma Hills. All historic archaeological resources recorded in this area are historic homesteads or relate to associated agricultural or grazing activities. Two variants of historic homesite settlement patterns are observable in the area. The first is the already familiar pattern of siting residence and barn complexes near a road. The second is quite distinct in that the home and barn complexes were often situated in the approximate center of the landholding.

The only relatively intact historic homesite in the area surveyed is Site 55H, the former Patrick Hagen homesite. The site consists of two large redwood barns, two small sheds, a water tower, a wooden garage, and two standing residences, which are situated at a distance from the road. One of these residential structures is small (5 meters by 8 meters) and may

have served as housing for hired hands. The second was the Hagen family residence, a complex, one-story structure composed of joined sections of two or more houses of different architectural styles that were moved to the homesite from other locations. The original house constructed by Patrick Hagen was at one time part of the complex but has been completely destroyed by fire. Survey and oral history interviews indicate that subsurface features, such as privy holes and perhaps trash pits, are present and of potential archaeological value. Historic surface litter abounds at the homesite complex.

Sites 54H and 60H are less intact architecturally. Both sites are examples of residence/barn complexes situated centrally on the property. Today Site 54H, possibly the Daniel Sullivan homesite, consists of a standing redwood barn, corral and watering features. A raised level area (Feature 4) appears to have been the location of another structure, now destroyed or removed. A former pond area with an earthen dam and a possible privy area were also observed. Farm equipment and historic materials are scattered over the area. Site 60H is apparently the William Farrell homesite compound. The compound today is still surrounded by remnants of a eucalyptus enclosure or fence, although no structures remain. A deep cellar hole with an associated pair of palm trees indicate the location of the housesite. A second depression may be the remnants of another structure while a large, rectangular terraced area probably supported a barn. Possible privy holes and a partially disturbed trash or dump area were also located. This housesite has considerable archaeological potential. The structure burned in the 1920's, and it is probable that remains of the house, and certainly of its contents, may form a deposit of archaeological integrity.

Sites 52H and 53H are two historic homesites adjacent to Flannery Road. Site 53H consists of a remnant of an almond

orchard associated with considerable historic debris including lumber with square nails, part of a cement foundation, and glass and ceramic surface scatter. Site 52H, apparently the location of the historic Flannery homesite, consists of a small redwood structure, a residence site, and a wide range of historic and post-1930 surface scatter, artifacts, and trash. Nearby settling ponds may have covered or destroyed other parts of this historic resource.

Five historic locations were also recorded in the area of the proposed waste disposal site. Areas of refuse suggest that Locations 50H and 57H may have served as farm dumps in the past. Location 58H is comprised of a former reservoir and duck pond dating from the 1920's which is associated with the nearby Hansen Ranch. The reservoir has piping and water control valves and is impounded by an earthen embankment measuring 100 meters by 60 meters. Location 51H is a smaller pond with a hand pump. A scatter of asphalt and lumber in the area suggests that a structure or other features were once present. Location 59H is a fallen windmill near a deep depression. Although this depression has the appearance of a cellar hole, the absence of trees or historic refuse, as well as documentary or oral historic information, suggest that it may have served as a cistern.

#### The Transmission Line

Only three historic sites (63H, 64H, 86H) were located and recorded along transmission lines L and M south of the Sacramento River. All three sites are apparently locations of former homesites as indicated by the presence of olive or fruit trees, historic glass scatter, crockery, and remnants of wooden

construction. No structures remain on any of the sites although two cement foundations were recorded at site 63H. Site 86H appears to have been disturbed and partially destroyed during construction of the pumping station presently located at the site. Sites 63H and 64H appear to be intact and surface evidence suggests the presence of subsurface features (for example, a well or pit). Site 86H apparently has a lightly disturbed prehistoric component. All three sites appear to be examples of rural homesites associated with agricultural activities in the area.

#### Test Excavation at Ca-Sol-33

Ca-Sol-33 is the remnant of a prehistoric occupation area situated on a small hill north of the Sacramento/San Joaquin River at the location of Hastings Adobe. The site falls within the boundaries of the plant site area. Due to the possibility of disturbance near the site, a subsurface testing program was carried out to determine the nature and extent of any cultural deposits.

Prior to initiation of subsurface testing, a surface reconnaissance was conducted at this location to determine the extent of artifactual material. Since heavy vegetative cover prevented a complete view of the ground, two-foot wide transects were cleared by a "weed eater" at twenty meter intervals throughout the area. No prehistoric cultural material was found outside the immediate vicinity of the Hastings Adobe.

Surface observation and historical research indicated that the site had been disturbed by construction of the Adobe and other farm buildings and fences. Examination of the adobe walls showed that many midden constituents, including burned bone, charcoal, and shell fragments, were found in the adobe

bricks. In addition, a small portion of the surface area near the Adobe had recently been cleared and leveled. Excavation included a soils testing program which involved the systematic sampling and analysis of soils in the excavated units, on adjacent hillsides, and from the cellar wall beneath the structure. Soil samples were taken at nine locations on and adjacent to Ca-Sol-33. Samples were collected from the six excavated units, one from a hillside east and west of the site where natural profiles were exposed, and one from the cellar wall beneath the structure.

It is widely known that the physical occupation of a land area by humans induces chemical and other changes in the soil through the deposition and decay of organic and inorganic debris (Cook and Heizer 1965b; Cornwall 1958; Limbrey 1975; Varner and Peck 1977; Woods 1977). Soils on occupation sites exhibit anomalies in pH, and often greatly increased concentrations of calcium, phosphorus, nitrogen, and carbon compounds (Cook and Heizer 1965b; Varner and Peck 1977; Woods 1977). An ever increasing amount of success is being achieved by correlating these soil characteristics with human site occupation (Cook and Heizer 1965b; Deetz and Dethlefsen 1963; Eidt 1977; King 1969; Pearson 1974; Winter 1977; Woods 1977).

The soil samples taken at Ca-Sol-33 were analyzed for pH, phosphorus and calcium. Unfortunately, the chemical analysis of the soil provided little information concerning the changes to the soil that occupation may have caused. The pH, phosphorus, and calcium values were fairly uniform and no concentrations or extraordinarily high readings occurred. The boundaries and limits of the site--or even if there was a site at all--could not be determined by the chemical analysis alone.

The physical characteristics of the soils have been described in part by the U.S. Department of Agriculture, Soil

Conservation Service, as Diablo-Ayar clays found on 2 to 9 per cent slopes (U.S. Department of Agriculture 1977). The soil of the immediate area can be described as follows: 1) surface to about 20 cm: very dark gray when moist and hard, firm, sticky, plastic, and slightly acidic; 2) 20 cm to about 40cm: very dark gray when moist and extremely hard, very firm, very sticky, very plastic, and neutral in reaction; and 3) 40 cm to about 75 cm: dark grayish brown with few faint dark yellowish brown splotches when moist, and extremely hard, very firm, very sticky, very plastic, and moderately alkaline (U.S. Department of Agriculture 1977). Below 75 cm, the soil color changes markedly to a yellowish gray-brown and the clay becomes more silty (U.S. Department of Agriculture 1977).

As reported by the Soil Conservation Service and confirmed in the field by our investigations of several sampling locations, the soil color and other characteristics changed at about 75 cm. There were three exceptions noted during the field investigations in that this change occurred at 45 cm in Unit 1, at 55 cm in Unit 4, and at 47 cm in the cellar wall profile. The shallow depth of this yellowish brown layer of soil would indicate that surface materials had been removed. It is likely that much of this material went into the making of adobe bricks for the building which now stands, as well as other structures which were scraped and cleared away over the years. This would account for the midden-like material such as bone, charcoal, and shell occurring in the adobe walls (Plate 2).

Six test units were excavated at this site. In an effort to reduce the disturbance to the historical deposits associated with the Adobe, no units were placed inside the chain-linked fence that surrounds the structure. Each test unit measured 1x2 or 1x1 meters and was taken down to sterile soil. All soil that was removed was sifted through one-fourth inch mesh

PLATE 2

ARCHAEOLOGICAL RESEARCH AT CA-Sol-33

Archaeological survey revealed that the Hastings Adobe was constructed on the same location as prehistoric archaeological site Ca-Sol-33. Test units, visible here at three sides of the adobe, were used to assess the significance of the site. North-south and east-west transects were cleared of vegetation to determine the aerial extent of the site. These are visible as light lines radiating from the area of the adobe.

(TCR-M 1+2/26[6]:3/13/80)



Plate 2  
Archaeological Research at CA-Sol-33

screens. An attempt to sift with one-eighth inch mesh, as well as the use of water to facilitate screening activities, did not prove feasible due to the hard-packed clay in the soil.

Unit 1 was located a few meters from the southeast corner of the Adobe and was excavated at 10 cm increments to a depth of 60 cm. Three small obsidian waste flakes found earlier on the surface indicated that possible prehistoric material was deposited below. A total of 75 possible prehistoric items and 179 historic items were recovered from the unit. The uncertainty in the number of prehistoric artifacts is due to the inability to assign most of these items (about 70 bone fragments) to the prehistoric category. Cultural debris included chert flakes, a shell bead, shell fragments, a piece of red ochre, a pine nut, flecks of charcoal, square nails, pieces of wire, porcelain fragments, pieces of glass, and other metal bits.

Unit 2 was placed on the west side of the Adobe just outside the fence. No prehistoric material was recovered from this unit, although a few flecks of charcoal and a piece of fired clay were recovered from the first two levels. Historic material accounted for 108 of the 111 items encountered and were removed, for the most part, from the 0-20 cm levels. The historic artifacts included bits of wire, glass fragments, and pieces of metal.

Unit 3 was located about 50 meters northwest of the Adobe in an area of extensive grass cover. Surface reconnaissance of the area revealed no evidence of prehistoric occupation. Still, it was felt that possible subsurface material may have existed because of the location on top of the knoll; and if none were present, excavation there would aid in determining the limits of the site. Because the first level, 0-10 cm was devoid of any cultural material, it was decided to excavate

only the eastern half of the unit. The next three levels were also lacking in any cultural items. The unit was then augered below the 40 cm level and a soil change was noted at a depth of 75 cm. No artifactual material was encountered during augering.

Unit 4 was placed in an area of suspected concentrations of prehistoric material on the south side of the Adobe. Recovered material was collected from the upper three levels. Nineteen historic items, 27 fragments of bone and shell, and a charcoal fleck were noted. The historic material was limited to fragments of glass, square nails, and other metal fragments. Due to the paucity of material found in the 20-30 cm level, further excavation was restricted to the northern half of the unit. The 30-40 cm level was considered sterile.

Unit 5 was placed on the north side of the Adobe and was excavated to a depth of 40 cm. No apparent prehistoric material was found, although a single andesite flake of suspected origin was removed. The remaining 67 items were historic in nature and consisted primarily of bits of wire, metal, and glass fragments, as well as other miscellaneous items.

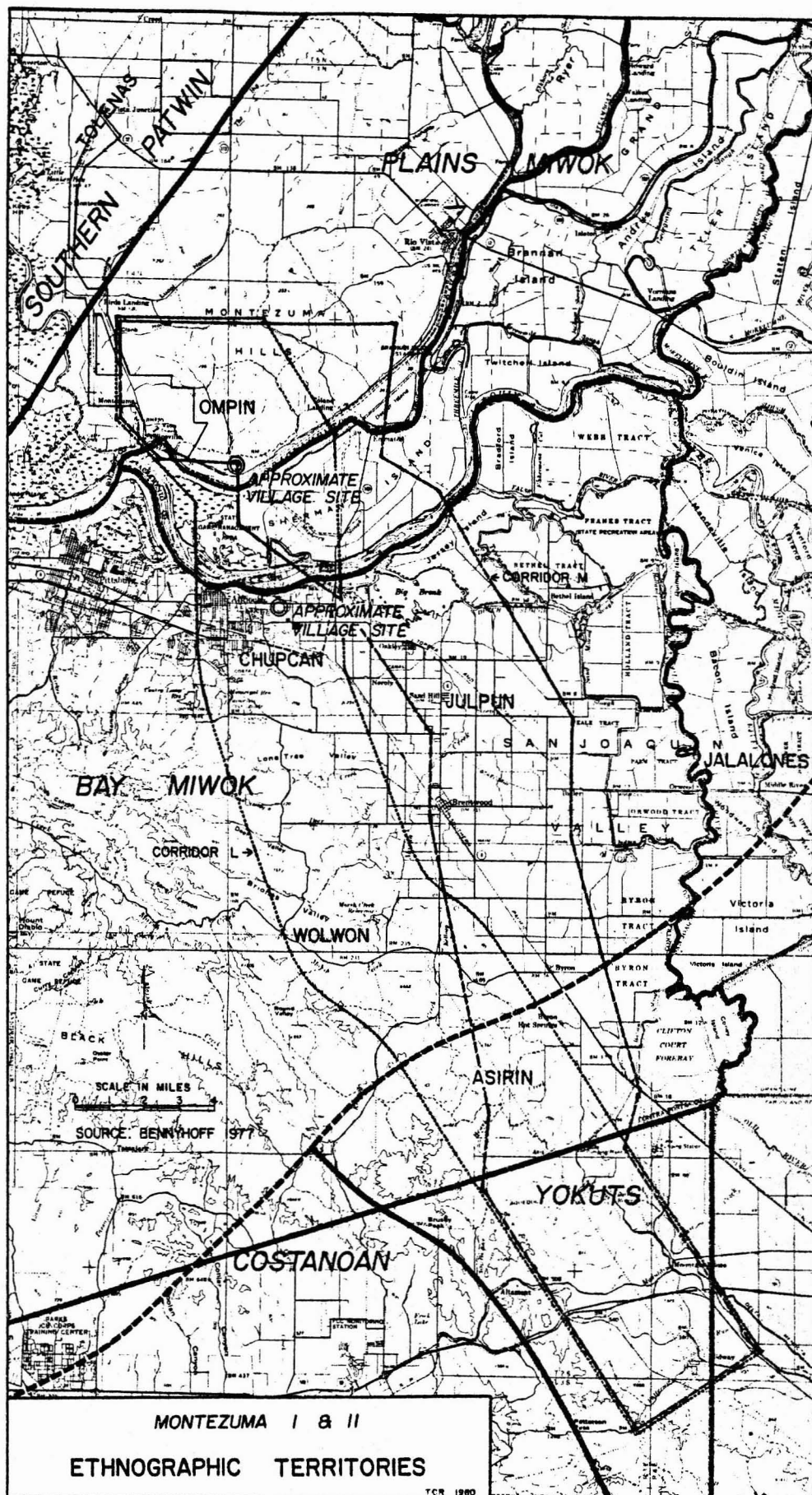
Final testing took place on a slight rise about 70 meters northeast of the datum. Excavation to the 20 cm level was completed and only three nail fragments were found. At this point, further digging was restricted to the eastern half of the unit which was excavated to a depth of 40 cm. No other material was encountered and excavation ceased.

## CHAPTER 4

### ETHNOGRAPHY

The proposed Montezuma I and II plant site and transmission corridors L and M are located in an area formerly occupied by the Bay Miwok and Northern Valley, or Delta, Yokuts (Map 2). The Bay Miwok occupied the Delta at the confluence of the Sacramento and San Joaquin Rivers, bordering the Plains Miwok along the Sacramento River east of Sherman Island and the Southern Patwin near Suisun Bay. Their territory apparently extended south of the Sacramento River beyond Mount Diablo. The Northern Valley Yokuts seem to have extended into the Delta as far north as Brushy or Kellogg Creeks. They were concentrated along the San Joaquin River and its subsidiary streams but ranged from the Diablo Mountains east to the foothills of the Sierra. There is also evidence that Costanoan-speaking peoples may have inhabited part of the San Joaquin Delta before moving, about A.D. 500, into their ethnographic territory west and south of Mount Diablo (Levy 1978:486).

A comprehensive study of the Native American cultures of the Delta is no longer possible. In the late 1700's and early 1800's, the native population was heavily impacted by missionary and colonial expeditions, and traditional lifeways and settlement patterns were severely disrupted. The survivors of these forays were later subject to pandemic European diseases and displacement by American settlement. The Northern Valley



Yokuts had been extinct as a viable culture for over half a century before anthropologists and other scholars began the systematic collection of data on their culture (Gayton 1930: 363). In 1864, for example, a Stockton newspaper reported that only ten families of the Yatchicumnes tribe were living and were situated on Amador's ranch (Merriam n.d.). By the 20th century, only a handful of Bay Miwok descendants could be found, and these were living outside their tribal territory (Bennyhoff 1977; Merriam n.d.; TCR Field Data). No Bay Miwok are known to have continued traditional cultural practices in the project area or to have direct cultural ties to specific locales within the corridor boundaries. Ethnographic research efforts were unable to produce any Bay Miwok or Northern Valley Yokuts who were knowledgeable of specific or general resource sites within the project area. Data on the cultures of these groups, therefore, have necessarily been compiled from available ethnographic, ethnohistoric, and historic records. The possible Costanoan occupation of the area traversed by the transmission corridors did not extend into the ethnographic past; therefore its influence on this region, if any, can be assessed only through archaeological exploration.

The territorial boundary between the Bay Miwok and the Northern Valley Yokuts has been a matter of controversy for decades and may never be satisfactorily resolved. One of the best analyses of the territorial extent of the Bay Miwok has been developed by James Bennyhoff (1977), whose data is based largely on first hand accounts by military and religious expeditions and on an 1824 mission map of the area; however, even by 1824, the Delta populations had been subject to intensive missionization and military campaigns and, in many cases, had responded by withdrawing to less vulnerable locations. The pre-contact position of these groups, therefore, cannot be inferred accurately on the basis of the available ethnohistoric data. Over time, the boundary between these two groups may

well have been in a state of flux. One analysis of linguistic data suggests that, about 500 years ago, the Yokuts gradually began expanding northward into the upper reaches of the San Joaquin Valley, displacing Miwok and Costanoan groups in the process, and were firmly established in the Delta by the time first contact was made by Spanish exploring parties (Levy 1978: 486; Wallace 1978b:463).

The population of the Bay Miwok and Northern Valley Yokuts was distributed into groups or tribelets which consisted of a village or villages closely related through language and kinship ties. It has been estimated that the population for each tribelet averaged 300 persons. Each unit of political organization was often given the name of its dominant village: for example, the Ompin settlement of the Ompin tribelet of Bay Miwok. Present knowledge of these groups and settlements has been derived from early historical accounts and previous ethnographies containing fragmentary information from descendants of native groups, and in this way, much conflicting information has been perpetuated. Many more groups than the written record indicates may have dwelled in the Delta, but this possibility can only be determined through archaeological reconnaissance and evaluation of artifactual materials.

The native populations of the plant site and transmission corridors are discussed in this chapter according to geographic location along a north-to-south axis. The northernmost group of Bay Miwok in the study area, the Ompin, occupied an area north of the Sacramento River approximately opposite present-day Antioch (Schenck 1926:137). It is generally agreed that the Ompin, also referred to as Los Ompines or Los Ulpinos, occupied a village approximately two miles east of the plant site but well within the transmission corridor. The village of Ompin is shown on an 1824 Mission San Jose topographic map (Bennyhoff 1977:166-167). At that time it was designated a

Christian village, a status borne out by Mission baptism records. In 1810, Father Jose Viader noted the village during an expedition through the Delta:

Down here where the two channels unite there is a village of the Ompines. Some of the people have already been baptized at San Jose because they [are accustomed to] pass over to the opposite shore [quoted by Cook 1960:264].

Two 1817 reports--Father Narcisco Duran's diary and Luis Arguello's report--refer to the area at the mouth of the Sacramento and San Joaquin Rivers as the territory of the Ompin (Cook 1960). Based on these two accounts, Cook places "the eastern edge of the Ompines at the east side of the Montezuma Hills in T3N, R2E, approximately..." (Cook 1955a:62); and he attributes to the Ompin a strip of land two miles wide along the northern riverbank from Collinsville to Rio Vista (Cook 1955a:64). According to Bennyhoff (1977:144), the Ompin "controlled the mouth of the Sacramento River and the tribelet center may possibly be Sol-34," a site adjacent to the Montezuma plant site area. Mission San Jose recorded 108 baptisms from the Ompin village in 1811 and 1812. Of these, 44 were men, 44 were women, and 20 were children (Merriam 1955:220); these figures may indicate a fairly stable community at the time of missionization. No other villages of the Ompin have been documented in the historic record, although an archaeological site, Ca-Sol-33, has been located in the plant site area. A deserted fishing village on Browns or Sherman Island was attributed in 1811 to the Ompin, but this tribal affiliation has not been proven. The Ompin may have occupied the islands in the Sacramento River and the south bank of the San Joaquin as well, before pressure from missionization pushed them to the north bank. On the other hand, the fishing village may represent an expansion of the Ompin into the depopulated Chupcan territory. Bennyhoff (1977:145) discounts both of these theories and

reasons that the boundary between the Ompin and the neighboring Chupcan and Julpun extended through the middle of Sherman Island.

The territory of the Julpun Bay Miwok apparently extended across Sherman Island and some of the islands and marshlands south-southeast of Sherman Island. Merriam attributed Sherman Island to the "Wi-pa" and the area southeast to the "Han-ne'suk," basing his assumption on information from a single consultant in 1905 (Merriam n.d.; 1974). The 1824 mission map, however, places the Julpun on the island. Based on his study of historic records and linguistic data, Bennyhoff (1977:75) concludes that the "Wi-pa" were actually a Plains Miwok tribe, the Guaypeme, located in the Tyler-Andrus-Brannan Island complex, and that the "Han-ne'suk" were the Anizumne, located near present-day Rio Vista. Schenck (1926:136-137) suggests that before contact the Julpun were along the San Joaquin River, possibly on the north bank as well as the south bank, but he attributes no specific group to the islands between the Sacramento and San Joaquin Rivers. He further hypothesizes that the Julpun may have moved into the Ompin territory due to pressures in their own ethnographic region. This movement would offer one explanation for the presence of the Julpun on Sherman Island in 1824. Mission San Jose recorded 148 baptisms of the Julpun between 1807 and 1827. Of these, 103 were performed in 1811, indicating an intensive missionization effort during that year (Merriam 1955:220).

The Chupcan were located on the southern bank of the San Joaquin River near present-day Antioch. Mission baptism records imply a smaller village than that of the Ompin or Julpun. Only 65 baptisms were recorded, 63 of which were in 1811. A fairly even distribution of sexes was noted: 22 male, 25 female, as well as 18 children. The extent of the territorial occupation is not known, but the Chupcan probably bordered

the Wolwon near Mount Diablo. The 1824 mission map identifies an area as "Roblar de los Chupcanes," an oak grove north and west of Meganos and north of Arroyo de los Poblanos (Bennyhoff 1977:166). This would place the Chupcan group over an area from Antioch south, perhaps as far as Deer Valley. However, the mission map is geographically distorted, and any more precise placement of the Chupcan would be speculative.

Less is known about the Wolwon who lived near the eastern slopes of Mount Diablo. The Wolwon Miwok mapped by Bennyhoff (1977:164) were apparently the same group as the "Bolbon" referred to in mission records. There were 67 baptisms recorded for the Bolbon between 1803 and 1813 (Levy 1978:399). The 1824 mission map locates a Christian village at Arroyo de los Poblanos, a canyon which would be favorable for settlement because through it flows Marsh Creek, one of the few permanent watercourses west of the San Joaquin River.

Frank Latta (1977:26) presents the "Bolbumne" as a group of Yokuts inhabiting the area from Antioch southeast to the Los Meganos land grant. He also identifies the "Hool-pum-ne" Yokuts who, according to Latta, ranged as far southwest as the present town of Byron and west to meet the Cholbumne at Tassajara and the east flank of Mount Diablo. He places the Cholbumne in the area from Byron Hot Springs to Lone Tree Creek. Latta's boundaries for these groups and his analysis of them as Yokuts are inconsistent with other sources (e.g., Bennyhoff 1977; Levy 1978; Schenck 1926; Wallace 1978b). His argument for Yokuts occupation of the entire San Joaquin Delta is based on a comparison of Miwok and Yokuts linguistic elements, folklore, and traditions, as well as on oral data. However, Latta's assertion that the Yokuts occupied the greater part of the Delta south of the Sacramento and San Joaquin Rivers is not borne out by the preponderance of data regarding tribal and linguistic affiliation of Delta Miwok and Yokuts groups.

The Asirin tribelet of Yokuts occupied an area of the transmission corridors near the Contra Costa-Alameda County line (Bennyhoff 1977:164). Although no definite village location is known, land use patterns would indicate that permanent settlement would be most likely near a constant source of water, perhaps Brushy Creek. The San Jose Mission recorded 21 baptisms for the Asirin between 1803 and 1805, most taking place in 1804 (Merriam 1955:220). This group does not appear on the 1824 mission map, although their territory was well within the influence of the mission. This may indicate that, by 1824, the Asirin no longer existed as a separate entity. Several possible explanations can be offered:

- a. that the population had been taken to Mission San Jose and incorporated into the general mission community;
- b. that the village had resisted missionization and was destroyed in the process; or
- c. that the Asirin had dispersed into other areas or Indian villages less vulnerable to mission and military expeditions.

Bennyhoff (1977:164) indicates that the Taunan group of Yokuts was well to the south of the Asirin. No exact location is known for Taunan settlements although it may be assumed that a village would have been located near a reliable source of water. Mission records again are employed as population indicators: 36 baptisms were recorded for the Taunan between 1815 and 1828. The 1824 Mission San Jose map did not record the Taunan, although contacts had been established well before that year and continued after 1824. Based on the sketchy information available, it seems likely that the Taunan occupied an area near Corral Hollow--well to the south of the transmission corridors. Seasonal use of the area's resources, however, may have taken this group into the study area.

Tribal populations have been estimated at 300-400 persons (Levy 1978; Wallace 1978b). Using mission baptism records, the

population for each village or tribal unit can be estimated. For example, 103 baptisms are recorded for the Chupcan. Anza in 1776 estimated the population of a village near Antioch (presumably Chupcan) at 400 persons. If the same proportion, roughly 25 per cent, holds true for other Delta villages, the population of the Bay Miwok and Delta Yokuts groups discussed above was about 1600-1800 persons before their numbers were reduced by the impacts of missionization, military conquest, disease, and settlement.

Each tribelet recognized well-defined boundaries, within which it conducted subsistence activities. Some areas were not considered as belonging to a specific group and were utilized by several tribelets. The Montezuma Hills, for example, were not occupied permanently and most likely were exploited by the early Anizumne Plains Miwok, the Ompin Bay Miwok and the Tolenas Southern Patwin (Bennyhoff 1977:146).

Seasonal flooding and tidal fluctuations in the Delta marshlands necessitated the placement of village sites on knolls or in other protected locations. Subsistence strategies favored locations near permanent watercourses, although in dryer areas, settlements were also scattered along intermittent streams. The population was distributed in accordance with the demand for non-marshy land and, according to Schenck (1926:43), utilized a considerable geographic area. A seasonal round may have been followed, taking the Delta inhabitants to the hills during the spring and summer, and returning them to the valley in early autumn (Schenck and Dawson 1929:302). All villages noted by early travelers were situated near the larger watercourses (Schenck 1926:126). On an expedition from Mission San Jose to Pescadero in 1810, Father Viader noted that "All this place and its surroundings are inundated during the high water of the rivers, which is in the summer. At that time the wild Indians live on a few small elevations" (Cook 1960:259). This

seasonal flooding was one of the factors that discouraged the Franciscans from founding missions in the interior valley.

Characteristically, Miwok dwellings were dome-shaped lodges, serving extended families, which were constructed of woven tule mats and grass thatch. Assembly buildings and men's sweathouses were "round, semisubterranean structures of substantial construction covered with earth" (Bennyhoff 1977:12). One account of a sweathouse, or "temescal," as it was called by the Franciscan missionaries, describes a structure "the shape of an inverted bowl, about 40 feet in diameter at the bottom, built of strong poles and branches, covered with earth" (Munro-Fraser 1882:66). This description may refer to a Foothill Miwok sweathouse, however, which may differ somewhat in construction or dimension from those of the Delta Miwok.

Northern Valley Yokuts villages were comprised of scattered single family dwellings. These were built with an oval framework of light poles to which woven tule mats were attached. Large ceremonial earth lodges and sweathouses were also constructed (Wallace 1978b:465).

The Miwok and Yokuts recognized a moiety system in which all elements of the world belonged either to the water or to the land moiety. Society was divided into totemic moieties along male descent lines (Kroeber 1925:453,493). Yokuts or Costanoan men who married Miwok women were placed in the moiety to which their wives did not belong (Gifford 1916:148). The moiety structure also played a minor role in ceremonial life. As Gifford reported:

Out of forty-four known ceremonies, the moieties took part in only four--the funeral, the mourning ceremony, the girl's puberty ceremony, and a dance known as the ahana. At least at Big Creek the moieties had reciprocal funerary functions, it being the duty of one moiety to care for the dead of the other. In the washing of the people which ter-

minated the mourning ceremony washers of the water moiety tended one basket and washed people of the land moiety, while washers of the land moiety tended another basket and washed people of the water moiety [Gifford 1916:145].

Gifford also reported that moieties took sides in games (1916:145, 1955:271). The distribution and complexity of the moiety system among the Miwok and Yokuts led Gifford to hypothesize that the San Joaquin Valley may be "the region from which the organization spread to the mountain tribes, perhaps to the west as well as to the east" (1916:194).

The Delta provided rich and varied resources for native California. Acorn was a staple in the diet of both the Miwok and the Yokuts. Although oak groves were not numerous in the Delta, the large valley oaks provided abundant crops of acorns which were ground into meal and cooked as a soup or gruel (Munro-Fraser 1882:62; Wallace 1978b:464). Dr. John Marsh noted a seasonal round of subsistence activities: grasses, clover and wild pea were gathered in the spring, grass seeds and acorns later in the year. He added that the Indians were "very poor hunters of the larger animals, but very skillful in making and managing nets for fish and food" (Munro-Fraser 1882:62). Waterfowl were plentiful. Herons, cormorants, cranes, quail, and doves were important food sources (Schenck and Dawson 1929:305). Ducks and geese were netted in the marshes. Flickers and other birds were caught in baited traps while quail were snared in brush fences. Woodpeckers were also taken (Levy 1978:404).

Fishing was perhaps the most important subsistence activity among the Northern Valley Yokuts and Bay Miwok due to their orientation to the labyrinth of waterways in the Delta. The tributary sloughs and channels of the Sacramento and San Joaquin Rivers hosted an abundant supply of fish. Although salmon was probably the most important specie, other fish such

as sturgeon, river perch, western suckers, and Sacramento pike were also plentiful (Wallace 1978b:464). In 1810, Father Viader described the great numbers of fish caught by Indians along the San Joaquin River (Cook 1960:258). The Miwok used obsidian-tipped fish spears, hook and line, and a poison made of soaproot or crushed buckeye nuts. Basketry fish traps were sometimes used in conjunction with stone wiers (Levy 1978:404). Little is known about the technology employed by the Delta Yokuts, although some mention has been made of small dragnets equipped with stone sinkers, and the use of bone or antler-tipped harpoons (Wallace 1978b:464). Quite probably, the Delta Miwok and Yokuts fished from the cigar-shaped tule rafts which were a common means of transportation along the rivers. These rafts, about ten feet long and fashioned from bundles of tules lashed firmly together, were used as late as 1840 (Beechey 1832:305; Munro-Fraser 1882:65).

Tule elk were abundant in the tidal marsh of the Delta as were golden beaver and other animals. Spanish accounts suggest that the beaver was important to the native population. The foothills rising from the valley harbored deer, cottontail, and jack rabbits, as well as other small mammals (Schenck and Dawson 1929:304). Rabbits were second only to deer in terms of the meat they provided. Meat from large mammals was cut in strips, then cooked over an open fire. Small game, birds, and fish were roasted whole in the ashes of a fire (Levy 1978:405).

Bulbs, tule roots, berries, and other plants supplemented the diet. Insects such as grasshoppers were also eaten in quantity (Baumhoff 1963:169). Earth ovens were used for baking or steaming bulbs, greens, and grasshoppers (Levy 1978:405). In historic times, the Indians ate red-stem filaree, an annual herb introduced from the Mediterranean. The fiber of the soaproot plant was used to make brushes and its root was eaten or

used as a cleansing agent. The shrub Yerba Buena was used medicinally (Schenck and Dawson 1929:303).

Clothing was not elaborate. John Marsh wrote, "The men and children are absolutely and entirely naked, and the dress of the women is the least possible or conceivable remove from nudity" (Munro-Fraser 1882:62). The Miwok shredded tules to make skirts or aprons for the women while the men wore buckskin loin cloths. Animal skin blankets were worn during cold weather (Levy 1978:407).

The natural resources of the Delta were exploited with a number of tools. The Bay Miwok used bedrock mortars for pounding acorns and seeds, and occasionally used the wooden mortars which were common among neighboring groups. They preferred pestles which were light and single-ended, made of basalt or sandstone. "The handle end was often carved into varied flanges, knobs, and other decorative elaborations. Wealthier women evidently possessed several which were buried with them" (Bennyhoff 1977:49).

Both twined and coiled baskets were made by the Miwok; the technique varying according to the function of the basket. Twined baskets included seed beaters, burden baskets used when gathering seeds, triangular winnowing baskets, openwork sifters of various shapes, storage baskets, cradles, and racquets used in a ball game. Coiling techniques were used in making platform winnowing trays, parching baskets, and truncated conical cooking baskets (Levy 1978:406). Yokut baskets were generally coiled. Earthenware containers, made by Foothill Yokuts and possibly valley tribes, occasionally reached the Northern Valley Yokuts as trade items (Wallace 1978b:465).

Stone tools, such as fish net sinkers, mortars, and pestles were used. Arrowpoints, knives, and scraping tools were

usually fashioned from locally available stone, such as chert. Mammal bones and antlers also served as tools.

The manufacture and use of certain tools was often associated with sexual roles. Women were the sole basketmakers and were principally responsible for gathering and preparation of plant foods. Men hunted animals and fished, making most of the implements associated with these activities. The Bay Miwok and Northern Valley Yokuts probably participated in the active trade network in native California, with the Bay Miwok trading such items as stone pestles, baskets, and bows and arrows to the Yokuts in exchange for dog pups (Barrett and Gifford 1933:270). Obsidian from the Napa Valley and olivella and haliotis shells from the Costanoan territory were also distributed through the Delta tribes (Bennyhoff 1977:50; Levy 1978:412). Indian trading groups from the northwest were likely to have passed through the Delta at the confluence of the Sacramento and San Joaquin Rivers on their route to the cinnabar mine at New Almaden near San Jose (Heizer and Treganza 1971:353).

Little is known of the religion and social customs of the Bay Miwok and Northern Valley Yokuts. Much of the information offered is of a general nature, obtained from neighboring Plains Miwok and Southern Valley and Foothill Yokuts groups. Although Kroeber (1925:452) reported that the Miwok usually cremated their dead, this practice may have been limited to the Sierra Miwok. Bennyhoff (1977:152) states that archaeology of the Plains Miwok does not substantiate this practice:

Archaeology reveals that the corpse, richly ornamented, was tied in a flexed position, wrapped with offerings in a tule mat, and placed in a simple circular pit within the village confines. . . Simple burial was adequate for ordinary people, but wealthy families usually preferred a special form of primary cremation in which the wrapped corpse was set afire and the grave filled before burning baskets and

flesh had more than scorched the bones. The destruction of a fitting amount of wealth in the form of mortuary gifts was essential if the family was to maintain its position among gossiping peers. . .[Bennyhoff 1977:14].

According to Bennyhoff (1977:50), Bay Miwok burial customs differed slightly from those of the Plains Miwok in that the Bay Miwok seldom interred coiled mortuary baskets with the dead. However, a local consultant described remains found at a burial site near Collinsville in the 1930's which suggest that baskets in which material possessions were placed were interred next to the corpse (TCR Field Data). Archaeological data derived from Delta Yokuts sites indicate that the dead were buried in an extended rather than flexed position, the grave near but not within the dwelling, with material objects placed in the grave or burned at the time of burial (Schenck and Dawson 1929:405). However, Wallace (1978b:468) indicates that the Northern Yokuts practiced cremation or burial in a flexed position. The social or religious criteria which determined the practice of cremation or burial are not known, but it was not uncommon in native California for both customs to be followed.

The Bay Miwok and Delta Yokuts are no longer extant groups. They had probably ceased to exist as organized tribes by the 1820's, if not earlier. Undoubtedly, the impact of the missions was responsible for the decline of many groups. The mortality rate for Indians living at the missions was extremely high. Disease, poor diet, unsanitary living conditions, lack of medical care, and change of climate contributed to the population reduction (Cook 1976:30-33). Military expeditions to search for new converts or to recapture runaway neophytes also caused numerous deaths.

Following secularization of the missions in 1836, many of the surviving Indians continued to live near the missions while

others, such as the Julpun, returned to their native territories. John Marsh spoke of using local Indian labor when he settled on Marsh Creek in 1836, and as late as 1846 he referred to the ranch as "Farm of the Pulpunes," a variant of Julpun (Bennyhoff 1977:62). Marsh's ranch, Los Meganos, "began to develop when, with the Indians, Marsh built a crude adobe dwelling on the bank of a stream opposite their ancient village" (Hurwitz 1972:8).

Some natives who resisted missionization found refuge with groups further upstream from the mouths of the Sacramento and San Joaquin Rivers. These groups suffered great reduction during the malaria epidemic in 1833. Accounts from trappers or hunting parties indicated that the population of the valley was dense in 1830, but by 1833 it had been decimated. Cook (1955b) estimated that 75 per cent of the Indians in California--20,000 in the Great Central Valley--died in the 1833 epidemic. A few survivors were later seen living in their ancestral territories. Some of these worked as laborers for the large landholders such as Marsh and Bidwell, but more often Indian relations with the influx of settlers were less amicable. The last Bay Miwok tribelet to be mentioned as a group in historical records was the Julpun, who worked for Marsh.

It is possible that some Bay Miwok and Delta Yokuts survived as individuals and resettled with other Miwok and Yokuts groups, thereafter losing their own tribelet identity. TCR was unable to find any descendants of the native peoples who had been located in the study area. The interval of nearly 150 years since these groups existed as viable entities has effectively obscured any direct ties to this area.

## Contemporary Concerns

The Native Americans in California, as in other states throughout the United States, are critically concerned about the preservation of their cultural resources. Throughout history, the values of the Indian people have generally been ignored, or in many instances, discounted. In recent years, however, their concerns for the disposition of prehistoric, historic, and contemporary resources have been heard. Native Americans have become increasingly involved in preservation and management issues in California. A number of developments are significant of this trend including the establishment of the Native American Heritage Commission (NAHC) within the State Office of Planning and Research, the creation of the position of Native American Heritage Coordinator in the Office of Historic Preservation as well as the increasingly active role of the Native American Advisory Council.

In an effort to solicit the concerns of Native Americans who might have traditional associations to the project area, TCR staff consulted the Native American Heritage Commission and the Native American Heritage Coordinator of the State Office of Historic Preservation. Referrals were requested to individuals or groups who might themselves possess information about the area or know of others who are knowledgeable. TCR also requested referrals to persons who are qualified to address the concerns of Native Americans in regard to heritage preservation issues. Information gleaned from discussions with Native Americans has been augmented by the published guidelines for the protection of Native American resources developed by the NAHC, the recommendations of the Native American Advisory Council, and similar statements and policies of other active concerned groups.

Although this research did not generate any site-specific data, a number of general issues surfaced. Perhaps the most volatile of these is the disposition of burials. There seems to be a general consensus that burials should be left undisturbed and that vandalism or destruction due to construction should be prevented. A NAHC staff report, following a workshop on Indian cemetery and burial place legislation, stressed the continuing concern of the Indian community for the protection of Indian cemeteries. The report concluded that protection of Indian burial sites should be equal to that afforded to non-Indian cemeteries and should be consistent with contemporary Indian beliefs and traditions.

This is best achieved through maintaining Indian cemeteries and burial grounds in their original state. There should be safeguards to ensure that disinterment is done only when absolutely necessary. The removal and reburial of Indian remains must be made in accordance with the religious beliefs of the Indian people involved. The physical integrity and religious sanctity of reburied remains has to be guaranteed. Finally, prehistoric Indian remains and associated objects should be subjected to scientific study only with the permission of, and in a manner acceptable to, the appropriate Indian descendants [NAHC 1979:2-3].

Pictographs were mentioned by one person as being significant to the culture history of the Indian people and worthy of protection (TCR Field Data). It also became apparent that the discovery and investigation of other cultural resource sites would warrant the attention and involvement of the Native American community. These resources might include cultural remains or deposits found through archaeological reconnaissance, such as lithic scatters or midden deposits. Any future archaeological work should include the participation of Native Americans (e.g., monitoring excavations). Upon completion of the work, research findings should be presented to the Native American community.

## CHAPTER V

### HISTORY

The history of the project area encompasses the periods of Spanish exploration, early settlement under Mexican rule, and more intensive development following California's admission to the Union. A general overview of the history of the plant site was provided by TCR in a previous report (Appendix A). This chapter will present an overview of the historical development of transmission corridors L and M based on data collected from published materials and public documents. Sixty-six individual known or potential historic resources have been identified; these are described in an annotated inventory at the end of this chapter. A more specific historical analysis of the areas incorporated in the plant site, industrial and rail corridors, and waste disposal site will be found in Chapter Six.

#### Transmission Corridor Overview

##### Early Exploration and Settlement, Pre-1846

Although Spanish expeditions explored portions of the East Bay corridor area as early as 1769, the eastern shores of the San Francisco Bay and the interior were still unknown to non-Indians as late as 1794. The numerous sloughs, creeks,

tulares, and mountainous terrain on the "contra costa" (the other side of the bay) discouraged exploration, and the land in the corridor area remained Indian territory throughout most of the Hispanic era.

In 1769, Jose Francisco de Ortega and Fray Juan Crespi, attempting to find a land route up the eastern shore of the newly discovered San Francisco Bay, explored as far as present-day Alameda Creek before turning back, discouraged by "scarcity of pasture and ferocity of heathen" (Hoover 1937:14). In 1772, a Spanish expedition out of Monterey, under the command of Pedro Fages, explored the San Pablo Bay and the Carquinez Straits, observing the great delta network of the San Joaquin and Sacramento Rivers as far as Antioch (Smith and Elliott 1878:7). In the spring of 1776, Juan Bautista de Anza and Fray Pedro Font set out to cross the San Joaquin River and explore the waters above it. Reaching Fages' earlier turning point near Antioch, they found the Delta impassable because of high water. Anza went on toward the Sierra Nevada, passing down through the corridor region as far as present-day Patterson Pass in Alameda County (Hoover 1937:78). That same year Captain Rivera's expedition explored inland to the future site of Rancho Los Meganos (Smith and Elliott 1878:7).

It was not until 1806 that further inland expeditions were encouraged by renewed efforts to pursue runaway neophytes from the San Jose and Carmel missions and by the search for new mission sites. With these aims in mind, Gabriel Moraga explored the country of the San Joaquin (Purcell 1940:36-37). The East Bay shore became better known in 1811 when Sergeant Jose Antonio Sanchez' party systematically explored and charted the lower San Joaquin and Sacramento Rivers as far as the Pescadero rancheria (Purcell 1940:39-40).

Although most non-Indian settlement in the corridor area did not occur until 1837, Mexico's liberal land grant policy

allowed grants as early as 1823 to Mexican citizens in less isolated parts of present-day Contra Costa County. In that year Francisco Castro petitioned for San Pablo Rancho and Ignacio Martinez for the Pinole Rancho. They planted vineyards and pear orchards, and each of them built an adobe house and a few corrals. In 1826 Jose Maria Amador settled upon the San Ramon Rancho near present-day Dublin (Smith and Elliott 1878:11). In 1835, Jose Castro granted Jose Noriega three square leagues of land among the Pulpones Indians east of Mt. Diablo. Noriega built a corral and a few outbuildings on the land, but he was not anxious to settle there. He found the rancho too isolated and exposed to Indian cattle thieves, and in 1837 he sold it to John Marsh for \$500 (Munro-Fraser 1882:480).

John Marsh, who arrived in Los Angeles in 1836, became the first American to practice medicine in California. Having graduated from Harvard in 1823, he later read medicine under an army surgeon in Minnesota. Subsequently, Marsh violated federal law by selling guns to the Sioux. A warrant for his arrest induced him to immigrate to California, where his medical services were much in demand. Characteristically, Marsh extracted a fee of 50 head of cattle, and as a result, Los Meganos was transformed from an isolated outpost into the first successful rancho in the project area (Bean 1978:67).

Before construction of his stone house in 1852, Marsh built a small adobe which stood about 60 feet south of Marsh Creek and about 125 feet north of the northeast corner of the present Stone House (Hendry 1940,4:485). John Bidwell, in his later statement to Bancroft, described the adobe in 1841 as: "built of unburnt brick, was minus a fireplace, lacked a floor, and was covered with bulrushes" (Hendry 1940,4:486).

In 1851, Marsh hired San Francisco architect, Thomas Boyd, to construct an eclectic three story stone house which the San

Francisco Evening Bulletin described enthusiastically:

The architect...has departed from the stereotyped square box with a piazza running partly or entirely around it, called a home in California, and has adopted the old English domestic style of architecture--a pleasing and appropriate union of Manor House and Castle. The arched window, the peaked roof and gables, the projecting eaves, the central tower sixty-five feet in height, boldly springing from the midst and enabling the proprietor to overlook his extensive domain, must be acknowledged by every visitor to be a most felicitous deviation from the prevailing style of rural architecture [San Francisco Evening Bulletin, July 19, 1856].

After Marsh's death in 1855, his son Charles occupied the house for a short time before moving to Antioch. It was occupied by tenant farmers at various times until 1922, when the Cowell Portland Cement Company purchased the 3800 acres upon which the house sits. In 1960, the S. H. Cowell Foundation deeded the Stone House and seven acres around it to Contra Costa County (Hurwitz 1972:31-35).

Manuel Miranda, Antonio Higuero and Francisco Alviso were among Marsh's nearest neighbors. They had petitioned for Rancho Canada de los Vaqueros in 1836, the same year that Marsh arrived in California (Hoffman 1862, Appendix:12). Rancho Canada de los Vaqueros, located in present-day Contra Costa and Alameda counties, was an extensive desolate section well adapted to cattle grazing. It was some ten miles distant from Marsh's adobe.

Apparently Alviso and Higuero, unlike Marsh, did not live on their grant. Jose Noriega, who testified that a small wood house was on the land in July or August, 1844, also stated that the partners lived with Jose M. Amador at Rancho San Ramon. Apparently they went daily to the grant to care for the cattle, but the house was occupied by Indian vaqueros (Bancroft 1886,2:694-695). Alviso acquired his partners' interests in

1846, and in turn sold the rancho, consisting of 17,760 acres, to Jose Noriega and Robert Livermore the following year (Hendry 1940,IV:539).

Livermore, a British citizen who arrived in California about 1822, married Fulgencio Higuera's daughter and acquired his first rancho, Los Positas, in the Livermore Valley in 1839 (Purcell 1940:198). Bidwell commented that "Livermore's was the frontier ranch, and more exposed than any other to the ravages of the Horse-thief Indians of the Sierra Nevada. That valley was full of wild cattle,--thousands of them,--and they were more dangerous to one on foot, as I was, than grizzly bears" (Royce 1906:42). After Livermore acquired Rancho Canada de los Vaqueros in 1846, he continued to live on his original grant, but utilized Los Vaqueros for his extensive cattle ventures. His cattle grazed from the Amador Valley to the San Joaquin River (Halley 1876:42).

The third land grant in the corridor area, in present-day Solano County, was acquired by John Bidwell in 1844. Bidwell had accompanied John Sutter on a trip to Monterey, and while there he was granted letters of Mexican citizenship and Rancho Los Ulpinos. After constructing an adobe in 1846, Bidwell attempted to found a town on the grant, but the settlers later abandoned it and the place became known as "Holo-che-muk," or "Nothing to Eat" (Royce 1906:42). In 1855, Bidwell split the grant into 20 equal parcels, and offered them for sale.

Although transportation routes inland were primitive, roads led eastward from the San Francisco Bay ranchos to Amador's and Livermore's ranches and southward to Mission San Jose. Early survey plats confirm the existence of a road leading from Marsh's Landing past Marsh's house to the Livermore Valley (U.S. Department of Interior, BLM, Surveyor General 1862:Plat Maps, Township 2 North, Range 2 East; Township 1 North, Range 2 East). An early connection known as Livermore's Pass was

established prior to the gold rush between San Jose and the San Joaquin and Sacramento Valleys over present-day Altamont Pass. This same San Jose-Stockton road served as a major thoroughfare for thousands of argonauts during the gold rush (Halley 1876:57).

More important, however, were the early landings established to carry on business dealings among the ranchos of the north. Livermore and Marsh depended on Marsh's Landing (near present-day Antioch) to transact much of their business with John Sutter. In a letter dated August 28, 1844, to John Marsh, Sutter states: "I send my launch to your Embarcadero for a cargo of dried meat, which Mr. Robert Livermore has promised me. I wrote him a few days since, advising him of the time the launch would be at your place, it is possible the letter has not reached him, in that event will you have the goodness to forward him the accompanying letter by your Vaquero? in order that he may send the meat as soon as possible" (Sutter 1844:letter).

The three ranchos supported cattle--about 9000 head according to Bidwell; he also noted 6000 sheep on Livermore's ranch (Royce 1906:32). There were extensive vineyards and the customary vegetable gardens, as well as various orchards consisting of apples, plums, pears, figs, almonds, and olives grown from cuttings obtained from Mission San Jose. Livermore was the first settler in the valley to raise wheat, which he irrigated by means of ditch water from Positas Springs (Baker 1914:44-45). Marsh cultivated the first wheat in what is presently known as Contra Costa County. Edwin Bryant, who visited California prior to the gold rush, wrote: "Dr. Marsh informed me that his lands had produced a hundred fold of wheat without irrigation" (Bryant 1848:29).

## American Settlement, Post-1846

After California became a state in 1850, the federal government established the California Land Claims Commission to rule upon the validity of Mexican land grants. If the grantee could provide the necessary legal documentation, and the commission approved, then the grant was confirmed. If not, the grant land reverted to the public domain or to the appropriate legal owner (Gates 1967:3-16). Of course, the discussion could always be appealed to a higher court, and in many cases litigation over title dragged on for years.

The Commission approved Robert Livermore's claim to Canada de los Vaqueros in 1855. John Marsh filed his claim to Los Meganos in 1852, and it was finally confirmed by the U.S. Supreme Court in 1858, three years after his death (Hoffman 1862:12, 30). Bidwell's grant, Los Ulpinos, was confirmed in 1854 and in 1855 he sold off 20 parcels. Considerable dispute arose over titles and boundaries and it was not until 1866 that the purchasers finally received their patents (San Francisco Morning Call, March 11, 1884). Dr. Hugh Hugar Toland and William Brown were among the buyers of Bidwell's grant. Toland, who later founded the University of California Medical School in San Francisco, established Toland's Landing on the Sacramento River halfway between Collinsville and Rio Vista. Brown established a wharf and landing adjoining Toland's property (Thompson and West 1878b:map).

Swamp and overflow lands which were originally part of the federal domain were granted to the State of California in 1850 under the Arkansas Act, but the first of several laws providing for the sale of swamp and overflow lands was not passed until 1855. Because public demand was so great, California allowed county surveyors to perform advance surveys for prospective buyers of these lands (Uzes 1977:134).

Robert Beasley, who located in 1851 about midway between Collinsville and Rio Vista, took advantage of the act past in 1855. He started reclamation of Sherman Island in 1855, and ran a ferry between Emmaton on Sherman Island and Twin Houses on the opposite shore (Wright 1880:220). Beasley's ferry later ran to Toland's Landing (Thompson and West 1878b:map). Twin Houses, which was located about 300 feet below present-day Toland's Landing, was, in fact, an iron pre-fabricated double house ordered by Beasley in 1851 (Munro-Fraser 1879:156).

By 1873, Sherman Island was totally reclaimed, and contained numerous small farms raising wheat, flax, potatoes, barley and fruit (Sacramento Daily Union, November 19, 1870). The San Francisco Bulletin carried a note on June 7, 1871 which stated that a new "commodious and substantial wharf" had been constructed, and "the steamers of the California Steam Navigation Company will hereafter touch at Sherman Island as they pass up and down the river" (San Francisco Bulletin, June 7, 1871).

In 1878, flood waters swamped the entire island and destroyed the levees (Wright 1880:220). Sherman Island flooded again in the early 1900's, and work crews were brought in to repair the levees. Early farming families, such as the Uphams and Andersons, shipped asparagus to San Francisco and alfalfa hay to Mare Island. Island families were dependent on a launch for transportation to Rio Vista for medical care, groceries, and other necessities (TCR Field Data).

#### The Public Domain and the Central Pacific

■ All of the public domain in the East Bay corridor area had been surveyed and made available for purchase or pre-emption between 1851 and 1862. On July 1, 1862, Abraham Lincoln signed

the Pacific Railroad Act. Amended in 1864, that act granted the Central Pacific and Union Pacific every odd-numbered section of the public domain for 20 miles on each side of their right-of-way; that is, half of the public domain in a strip totaling 40 miles in width (Bean 1978:213). That same year Charles McLaughlin contracted with the Western Pacific to construct and equip a single track railroad from San Jose, via Niles and Stockton, to Sacramento. This road followed the old San Jose-Stockton route and climbed over Livermore's Pass through the corridor area. Shortly thereafter the Central Pacific took over the Western Pacific's franchise and claimed the odd-numbered sections of land on each side of the road for 125 miles from San Jose to Sacramento (Williams 1979:188).

In early 1874, after trying for years to claim this land, the Central Pacific gave all of its unsold sections to Charles McLaughlin in payment for his services as contractor and Central Pacific agent. The General Land Office ratified this arrangement, and McLaughlin came into possession of thousands of acres of land in seven counties (Williams 1979:105). Settlement in the Alameda County corridor area was sparse until the 1870's. When Alameda County was formed in 1853, the mountainous southeast section of Murray Township which encompasses the corridor area was generally considered unfit for agricultural purposes (Oakland Tribune 1898:135), and the government surveys, completed by 1857, recorded the area as "broken hill land." Only one site, labeled "J. Patterson's Barley Field" was recorded (U.S. Department of Interior, BLM, Surveyor General 1857:Plat Map, Township 2 North, Range 4 East).

In 1850, the Patterson brothers emigrated from Tennessee, and J.M. Patterson located on present-day Patterson Pass in the corridor area. Another of the brothers, Nathaniel Greene Patterson, rented Robert Livermore's old adobe that year, and started the first public inn in the Livermore Valley (Thompson and West 1878a:25).

In 1854, in order to accommodate the traffic to the mines, Simon Zimmerman, a native of Germany, established Mountain House on Livermore's Pass near the San Joaquin County border. The Stockton stage changed horses there, and for ten years Mountain House served as a special camp for stockmen, rancheros and immigrants. Zimmerman added a frame building to the front of the original adobe in 1868, but later tore this down and built a large residence on the site (Baker 1914:45; Thompson and West 1878a:25). Frank Heare, another early resident, settled in 1856 in the vicinity of Midway on Patterson's Pass (Baker 1914:47).

The Central Pacific came through in 1869, and by 1874 all of the region had been purchased or pre-empted. Charles McLaughlin was nominal owner of all the odd-numbered sections in the corridor area, but Patterson, Zimmerman and Heare retained their patents (Allardt 1874:map; Thompson and West 1878a:map).

Although extensive wheat and barley farming was recorded as early as 1854 in other parts of Alameda County, there is very little evidence of farming activity in the corridor area until 1880. The 1880 agricultural census records 17 known property owners who were conducting small-scale farming operations ranging from 160 to 320 acres in size (see Appendix B). Of these property owners, eight raised wheat and barley on a small scale, and two grazed sheep in the vicinity of Mountain House (U.S. Bureau of the Census 1880a). Zimmerman and Hears, both settlers from the 1850's, held larger tracts. By this time Zimmerman, who also operated Mountain House, claimed 240 tilled acres and 240 acres in permanent pastures and meadows. He grazed 1000 sheep, and raised poultry and swine. Franz Hears had acquired 720 acres near Midway where he ran a small dairy, raised poultry, and cultivated 120 acres of hay.

By 1878, Charles McLaughlin and Michael Mulqueeny held thousands of acres in the corridor area. Mulqueeny, born in Ireland, immigrated to California in 1868. In 1869, he began purchasing property in the Alameda County corridor area near Midway. By 1882, he had acquired 4000 acres and was conducting one of the largest sheep ranches in Alameda County. The following year he acquired another 4000 acres and grazed between 5000 and 8000 sheep on his range (Munro-Fraser 1883:950). The Mulqueeny family held this property and continued ranching operations throughout the historic period (Budd and Widdows 1917:map, 1926:map).

Nineteenth century land use patterns in the San Joaquin County corridor area, which occupies approximately 1300 to 1400 acres in Tulare Township, differed from those in the nearby Alameda County corridor area. This corridor area was originally public domain, and by 1870 had all been pre-empted or purchased. As early as 1870, its gently sloping terrain was devoted completely to wheat and barley production. The agricultural census for that year (see Appendix B) recorded five known property owners with wheat and barley ranches averaging between 160 and 320 acres (U.S. Bureau of the Census 1870c). By 1883, however, absentee ownership was strongly evident in this section. Charles Alpers, a San Francisco speculator; R. Fabian and Company, a San Joaquin County land company; and Charles McLaughlin and his heirs, all held interest in the land at one time or another into the 20th century (Budd and Widdows 1926:map; Compton 1894:map; Quail 1905:map; Reid 1883:map). No recorded historic resources or potential historic resources have been located in the San Joaquin corridor area.

Settlement and land use patterns in the Contra Costa County corridor area were more diverse than those in the Alameda and San Joaquin corridor areas. The topography supported a variety of agricultural and commercial activities, including a brief

flurry of coal mining speculation on Rancho Los Meganos in the 1870's. Antioch, founded in 1850 by the Smith brothers, Iron House Landing located several miles east of Marsh's Landing, and Babbe's Landing located directly southeast of Iron House Landing, were all early shipping points for the corridor area's agricultural produce. Byron and Brentwood originated in 1878 as railroad towns for the Southern Pacific's rail line between Oakland and Tracy.

The Contra Costa County corridor area, officially surveyed between 1851 and 1862, contained both public and private lands. Swamp and overflow lands, reclaimed later in the century, formed the eastern boundary. The Rancho Los Meganos land grant was located entirely within this corridor area as was the eastern portion of Rancho Canada de los Vaqueros.

Early survey plats of the Contra Costa corridor area record a variety of terrain, most of which was suitable for agricultural purposes. Between Antioch and Rancho Los Meganos the survey notes "Rolling and Level Land, Soil 1st and 2nd Rate," as well as a small section labelled "Impenetrable Chamisal" (U.S. Department of Interior, BLM, Surveyor General 1862:Plat Map, Township 2 North, Range 2 East). Between Iron House Landing and Rancho de los Vaqueros the land is recorded as "Mostly level, Soil 1st and 2nd. rate." A small section in the northeastern sector near Iron House Landing is labeled as "Land level, Soil sandy and 3rd rate" (U.S. Department of Interior, BLM, Surveyor General 1862:Plat Map, Township 1 North, Range 3 East). By the 1880's, however, this sandy land was under cultivation.

Transportation routes crisscrossed the Contra Costa corridor area as early as the 1850's. Several roads from Deer Valley to Iron House Landing wound through Los Meganos as did the county road from Martinez to Stockton. Marsh's Landing was

accessible by several routes, one of which connected Livermore's Ranch to the San Joaquin Valley (U.S. Department of Interior, BLM, Surveyor General 1862:Plat Map, Township 1 South, Range 2 East).

John Marsh predicted the corridor's future. His statement to Lewis Cass in 1846 that California had "the finest country for wheat I have ever seen" was actuated in the late 19th century Contra Costa corridor area (Purcell 1940:182). By 1858 there were 31,115 acres of wheat under cultivation in Contra Costa County. Between 1860 and 1880, wheat production soared. Point of Timber in the extreme eastern part of the corridor area, Eden Plain in the northeast part, and both Los Meganos and Canada de los Vaqueros were largely devoted to wheat production (Purcell 1940:399-400). In 1873, the Clay Street Bank of San Francisco, which had wrested control of Los Meganos from Charles Marsh, turned the 23,000 acre land grant into a series of tenant wheat and barley farms ranging in size from 200 to 900 acres (Purcell 1940:170; San Francisco Call, November 1883).

Land use changed dramatically in the Contra Costa corridor between 1860 and 1870. The 1860 agricultural census (see Appendix B) records no wheat production among known project area settlers. Charles Marsh, listing 13,300 unimproved and 20 improved acres in Los Meganos, grazed 3500 cattle that year. Robert R. Fuller, who had come to California in the gold rush, claimed 160 acres next to Antioch in 1853 (Munro-Fraser 1882:561). The 1860 census credits him with 92 swine, 37 cattle, and 16 "milch" cows, but there is no recorded evidence of other farming activity. In 1858, Christian and Ferdinand Hoffman came to the Iron House district from Prussia and began grazing sheep. The 1860 agricultural census credits them with 750 (U.S. Bureau of the Census 1860b).

A comparison of the 1860 and 1870 agricultural censuses provides evidence that wheat and barley farming had established

itself in the corridor area by the latter date. The 1870 census (see Appendix B) records seven known project area settlers, six of whom were raising wheat and barley on tracts of improved land ranging in size from 160 to 1120 acres (U.S. Bureau of the Census 1870b). In 1861, Christian and Ferdinand Hoffman had abandoned sheep grazing and acquired a 960-acre wheat farm one mile from present-day Byron (Munro-Fraser 1882:577-78). By 1870, Henry Gallagher, who had settled near the Hoffman's in 1861, had 480 acres in wheat and barley production (Munro-Fraser 1882:485; U.S. Bureau of the Census 1870b).

Of the 15 known project area settlers recorded in the 1880 Contra Costa County agricultural census (see Appendix B), 12 devoted their acreage to wheat and barley production. Although other parts of the county had already begun orchard and vineyard production, neither of these activities is recorded for corridor area settlers (U.S. Bureau of the Census 1880b).

Coal was discovered in 1855 and 1856 by George Hawxhurst and William Israel in the steep hills south of Antioch. The discovery occasioned great excitement, and a series of coal mining towns (Nortonville, Somersville\*, Stewartsville, Judsonville, and West Hartley) sprang up in the 1860's, in the Mt. Diablo foothills below Antioch, directly west of the corridor area. The Mt. Diablo coal field extended from Kirker Pass, five miles south of Pittsburg, to the Los Meganos boundaries, where it terminated in the Brentwood Mines (Purcell 1940:359). The Empire Mine at Judsonville was started in 1876, ran rail lines to Antioch, and at one point was producing over 100 tons of coal per day (Contra Costa Gazette, July 8, 1876).

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\*Historic archaeological excavations are currently being conducted at Somersville by the University of California, Berkeley.

Jack Williams, backed by J. P. Sanford, had acquired principal interest in Los Meganos from Charles Marsh in 1871 and established the Brentwood Coal Company in an ambitious scheme to develop the coal vein located on grant land. A railroad was provided to Marsh's Landing with deep water wharves, shafts equipped with expensive machinery, and boarding houses for miners. The venture was plagued from the start, and the coal was found to be of inferior quality (Purcell 1940:359). Charles Marsh brought suit against Sanford, and in 1873 the Clay Street Bank of San Francisco took over the property (Hurwitz 1972:30). Coal mining on Los Meganos did not prove successful, and the venture was abandoned.

Byron and Brentwood were railroad towns founded in 1878 on the Southern Pacific line that had begun operation that year between Oakland and Tracy. The Clay Street Bank, which was leasing Los Meganos to small wheat farmers, donated a tract of land and Brentwood was established. By 1879, the town had 100 residents, three stores, three saloons, a schoolhouse, a warehouse, and a railroad depot (Munro-Fraser 1882:496-97). Also in 1878, Henry Wilkening built the Byron Hotel and Byron, five miles southeast of Brentwood, began as a Southern Pacific depot that same year. By 1883, the town had a population of 60, three saloons and two blacksmith shops as well as a store, warehouse, harness shop, and livery stable. Wilkening owned the hotel, one saloon and the livery stable (Munro-Fraser 1882:697-698). A stage connected Byron with Byron Hot Springs, two and one-half miles distant. Point of Timber, Eden Plain, and Iron House, which had been important early settlements and shipping points for the area, were eventually superseded by these railroad towns (Purcell 1940:734).

Antioch was founded in 1850 by W. W. Smith and continued to grow throughout the 19th century. The Smith brothers were carpenters from New Hampshire who immigrated to San Francisco in

1849. After his brother's death in 1850, W. W. Smith invited a colony of newly-arrived New England families to settle at Smith's Landing, now present-day Antioch. A street was laid out, and each family that promised to settle on the land received one lot from Smith. George W. Kimball, leader of the New England colony, built the first house in 1851. It still stands on Third Street (Hoover 1937:112-113).

Among Antioch's earliest industries were a brick-making company, the Albion Pottery Works, a large distillery, and a smelting works. In 1877, the proprietors of the Empire Mine ran a narrow gauge railroad from the mine in the Diablo foothills to the Antioch waterfront, and in 1878, the Southern Pacific ran through town (Munro-Fraser 1882:491). By the end of the century Antioch had become a major shipping center for the Mt. Diablo coal industry and agricultural area.

After 1880, agriculture in the Contra Costa County corridor area became more diversified as alfalfa and fruit production increased in importance. A system of irrigation projects initiated after the drought of 1863-65 made the planting of large-scale orchards possible (Purcell 1940:324-25). Wheat was still an important crop, however, and was not entirely supplanted until 1920 (Purcell 1940:734).

By 1883, the corridor area grain belt was interlaced with alfalfa fields and young orchards bearing a variety of fruit. Dean, Walton, and Sellers, who owned 460 acres in three contiguous parcels below Babbe's Landing, were cultivating "good crops of choice fruit, such as apples, pears, prunes, peaches, plums, apricots, almonds and figs by 1883" (Antioch Ledger, December 22, 1883; McMahon 1885:map). L. G. Stresovich, who owned 260 acres outside of Byron and was considered a leading orchardist in the state, had by 1887 planted 71 varieties of fruit trees on 100 acres (Contra Costa Gazette, April 21, 1887; McMahon 1885:map).

In the late 19th century, experimentation in the raising of vegetables began in the Contra Costa corridor area, and by 1930 the local economy depended on orchard and vegetable produce rather than on grain and hay (Contra Costa County Title Company 1930:map). The beginning of the change was initiated when Balfour, Guthrie and Company gained final title to Rancho Los Meganos in 1914. They initiated the Brentwood Irrigated Farms, a speculative project which encompassed 12,000 acres of Los Meganos. The scheme was dependent upon the construction of a modern irrigation system which took water from the San Joaquin River and distributed it through a system of canals and pumping stations to the entire area (San Francisco Chronicle April 30, 1914; Purcell 1940). Balfour, Guthrie and Company subdivided the rancho into tracts of 20 acres or more, established their headquarters in Brentwood, and promoted their Brentwood Irrigated Farms parcels as the "Best in the West" (Byron Times 1914:21). The land sold for \$250 to \$300 per acre, depending on location. It included water rights represented by stock in the Eastern Contra Costa Irrigation Company which oversaw the irrigation project (Byron Times 1914:22).

Three other irrigation districts, proposed at the same time, helped transform the East Bay corridor area into an orchard and vegetable region. The Byron-Bethany Irrigation Company, capitalized at \$100,000, was the largest of these ventures; it proposed to irrigate 30,000 acres between Byron and Bethany. The project was backed by local land owners and initiated by J. A. Modin, a local farmer; 10,000 shares at \$10 a share were issued (Byron Times 1914:8).

By 1908, the delta country east of the corridor area had been reclaimed, principally by the California Reclaimed Land Company and Rindge [sic] Land and Navigation Company (McMahon 1908:map). This reclamation, together with the irrigation projects initiated in 1914, transformed the Contra Costa corridor

area into one of the most fertile vegetable producing regions in California.

Brentwood, on the Southern Pacific main line, became the principal shopping, shipping, and business center for the district. Oakley, Knightsen, and Herdlyn, turn-of-the-century farming centers, were linked in 1915, with Byron and Brentwood when the Borden Delta State Highway was completed. After 1920, fruit and vegetable packing plants began to dot the region along the Southern Pacific and Santa Fe lines (Purcell 1940:735).

Land use patterns changed less radically in the Alameda County corridor area. The Rancho Canada de Los Vaqueros land grant, situated in both Contra Costa and Alameda counties, continued to be used principally for grazing throughout the 19th century. As agricultural patterns began to change in the East Bay corridor area, however, a portion of the rancho was devoted to wheat production (Purcell 1940:400). By 1914, Mary Ives Crocker had acquired sole ownership of Rancho de Los Vaqueros and devoted the land to both wheat production and cattle grazing (Byron Times 1914:62-62), but by 1930 Los Vaqueros was devoted entirely to grazing (Contra Costa County Title Company 1930:map).

In 1917, a major irrigation canal ran southeast from below Byron through the northeast corner of the Alameda County corridor area east of Mountain House and terminated on the San Joaquin County boundary line. This system, which appears to be part of the Byron-Bethany irrigation project initiated in 1914, enabled local farmers in the Alameda County corridor to diversify their crops. Grazing, however, remained a major activity in the hilly country of the Alameda County corridor.

## Summary

Project area lands were under diverse ownership and use by the 1920's. During the 18th century, Hispanic people explored the region but made no permanent settlements until the 1830's, when several large land grant ranchos were established. The land grants were used principally as livestock ranchos. After California was acquired by the United States, a new land policy was instituted, and many of the large holdings were broken up into smaller, intensive farming operations. Wheat was an important product of the farms and ranches during the 19th century. During the latter part of that century, grain farming was supplanted with vegetables and fruits, a change that was facilitated by the construction of irrigation projects. The elaboration of the transportation network provided for efficient sale and distribution of the agricultural products grown in the region. First, there were a few primitive roads augmented by some water transportation. During the 1850's and 1860's, water transportation became more important as steamers appeared on the river and delta waterways. In the 1860's, railroads became a vital part of the transportation network. At the turn of the century, paved roads and the development of motor transportation added another dimension to the distribution of the region's products. Each of these developments brought changes to the landscape in such forms as houses, mines, and fields. The features that remain comprise part of the project area's cultural resources and are described in the inventory which follows.

## Inventory of Known and Potential Resources in the Proposed Transmission Line Corridors

This inventory of known and potential historic resources in the proposed transmission line corridors was compiled from national, state and local lists at the California Office of Historic Preservation: including the U. S. Department of the Interior National Register of Historic Places, California Historic Landmarks program, California Inventory of Historic Resources (CIHR), California Points of Historic Interest, Preliminary History Resources Inventory prepared by the Contra Costa County Planning Department (CCCPD), Our Lasting Heritage (published by Central Solano County Cultural Heritage Commission), and the Historic American Building Survey (HABS). There was examination of historic maps and other pertinent literature, as well as interviews which revealed potential resources not previously recorded. Resources that appear to be directly in line with the proposed transmission lines are recorded separately at the end of the inventory.

Resource descriptions are taken directly from the previous inventories cited. Descriptions are succinct, following contract guidelines which provided only for brief visitation of sites in the project area to determine sensitivity. Resources are listed by name, county and location as given in the inventories and references cited.

RESOURCE	LOCATION
1. MIDWAY  Alameda County Recorded Site (CIHR 1976: 221)	Patterson Pass Road, T2S R4E, Section 32

Midway was composed of about a dozen houses, a post office, and a school. In the 19th century, it was the location of a Central Pacific depot and eating house on the San Jose-Stockton-Sacramento route. Houses from Brown's Stage Station on Patterson Pass Road have been moved to Midway.

2. MOUNTAIN HOUSE

Altamount Pass Road,  
T2S R4E, Section 18

Alameda County  
Recorded Site  
(CIHR 1976:146;  
HABS Cal-1199)

Mountain House, originally known as the Blue Tent, was established in 1849 as a stopping point for travelers enroute to the southern Mother Lode mines. In 1853 Simon Zimmerman bought the Blue Tent and established Mountain House. In 1870, a school was established there. Today a small settlement exists on the site.

3. STONE CORRAL

Patterson Pass Road  
at intersection with  
unimproved dirt road,  
T3S R3E, Section 1

Alameda County  
Potential Site  
(U.S.G.S. 1968:  
Midway Quad topographic map)

This potential site is located on the U.S.G.S. 1968 Midway Quad topographical map. It has not been identified elsewhere in the literature nor has it been identified on historic maps.

4. UNIDENTIFIED HOUSE AND  
OUTBUILDINGS

T2S R4E, Section 30

Alameda County  
Potential Site  
(U.S.G.S. 1968:Midway Quad  
topographic map)

This unidentified house with outbuildings needs research. It is located on the U.S.G.S. 1968 Midway Quad topographical map.

5. ANTIOCH CITY HALL

Antioch  
West 3rd and H streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

The City Hall is a two-story cut stone building with medium hip roof, decorated box cornice frieze and brackets. It contains segmental arched windows on the second floor and an arched door entrance with decorative pilasters.

6. ANTIOCH LUMBER COMPANY

Antioch  
2nd and E Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

One of the oldest mercantile firms in Antioch, the Antioch Lumber Company was founded in 1864 and is possibly the oldest lumber concern in California still selling lumber. It is an architectural example of a New England frame building.

- |  |  |
|--|--|
| 7. ANTIOCH PIONEERS<br>LANDING SITE                  | Antioch<br>Foot of E Street<br>at waterfront |
| Contra Costa County<br>Recorded Site<br>(CCCPD 1976) |  |

The birthplace of the city of Antioch on September 16, 1850, this site denotes the landing spot of Captain George W. Kimball and his New England colony. Kimball and his colony had previously arrived in San Francisco. W. W. Smith induced them to cross the Bay and settle in present-day Antioch.

- |  |                                |
|--|--------------------------------|
| 8. ATCHISON-TOPEKA AND<br>SANTA FE DEPOT             | Antioch<br>816 West 1st Street |
| Contra Costa County<br>Recorded Site<br>(CCCPD 1976) |                                |

H. F. Beede of Rouse, Forman, and Beede Lumber Company obtained the right-of-way for the railroads in 1899. The San Francisco and San Joaquin Valley Railroad, now known as the Atchison-Topeka and Santa Fe, had its eastern terminal in Antioch for many years. The depot, built about 1902, is a surviving example of the Mission Revival style utilized in the Atchison-Topeka and Santa Fe depots.

- |   |   |
|---|---|
| 9. BABBE'S LANDING  | Oakley<br>Foot of Sellers Road, on<br>Dutch Slough near Cypress<br>Road; T2N R3E, Section<br>19 |
| Contra Costa County<br>Recorded Site<br>(CIHR 1976:228;<br>CCPD 1976) |   |

Frederick Babbe located at Babbe's Landing in 1854 and expended \$30,000 in reclamation work, levees and wharf construction. Babbe's Landing was an early boat landing for horse and hay transport to San Francisco, and was the shipping point for the Iron House and Eden Plains districts.

- |  |                                   |
|--|-----------------------------------|
| 10. BAKER HARDWARE<br>AND PAINT STORE                | Antioch<br>West 2nd and G Streets |
| Contra Costa County<br>Recorded Site<br>(CCCPD 1976) |                                   |

This structure housed an early general hardware business in Antioch around 1880. The Antioch Post Office was periodically located in the rear of the building, depending upon which political party was in office.

11. BEEDE HOUSE

Antioch  
119 Beede Way

Contra Costa County  
Recorded Site  
(CCCPD 1976)

Built circa 1895, and known as "Country Home," this residence has two stories with medium hip roof and open verandas on the first and second floors. Mr. Beede was a businessman and civic leader, and is credited with forming the Riverview Union High School.

12. BELSHAW HOUSE

Antioch  
West 7th and  
E Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

Mr. Charles M. Belshaw was an active participant in local and state activities. He was a member of the State Assembly in 1894, and a State Senator in 1900.

13. THE BRENTWOOD MINES

Los Meganos Grant  
T1N R2E, northeast  
quarter of Section 27,  
southeast quarter of  
Section 22

Contra Costa County  
Potential Site  
(Contra Costa County  
1871:map; McMahon 1885:  
map)

The Brentwood Coal Mines Company was organized in the early 1870's by John Williams. Backing for the venture was provided by the wealthy Sanford family of New York, then principal owners of Los Meganos. Williams opened the coal vein located on the rancho property, erected the deep water wharf at Marsh Landing, installed the necessary machinery and equipment, and built living quarters and boarding houses for the miners (Purcell 1940:359). The coal proved inferior and the venture was abandoned.

14. BROWN HOUSE

Antioch  
219 West 6th Street

Contra Costa County  
Recorded Site  
(CCCPD 1976)

Built about 1890, this structure housed the G. W. Brown family and later Henry F. Beede. Both men were quite active in civic affairs and in the development of Antioch.

15. BYERS HOUSE

Byron  
Byers Lane

Contra Costa County  
Recorded Site  
(CIHR 1976:228;  
CCCPD 1976)

This residence was the home of one of the area's earliest pioneers, and was built in the 1860's.

16. BYRON-GRANGE HALL

Byron

Contra Costa County  
Recorded Site  
(CIHR 1976:204;  
CCCPD 1976)

This building, built in 1873 and located in Point of Timber, was the home of the Grange. The town folded in 1878, with the coming of the Southern Pacific Railroad and the founding of Byron. The building was moved to Byron in 1878.

17. BYRON HOT SPRINGS HOTEL

Byron Hot Springs Road  
west of County Road J-4

Contra Costa County  
Recorded Site  
(CIHR 1976:228;  
CCCPD 1976)

A center of recreation and health spa for prominent citizens in the San Francisco Bay Area in the late 1800's and early 1900's, the hotel has twice burned. The mud baths, hotel, manager's house and cottages are still standing. It was used as a Japanese internment camp during World War II.

18. BYRON I.O.O.F HALL

Byron

Contra Costa County  
Recorded site  
(CIHR 1976:204;  
CCCPD 1976)

Built in 1870, this building is the earliest Odd Fellows Hall in the area. It was the region's social center through the early 20th century. It is still in use and in good condition.

19. CASINO THEATRE

Antioch  
West 1st and H Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

The Casino Theatre, built circa 1910, was the site of the Antioch Lumber Company's warehouse built in 1864.

20. COATS HALL

Brentwood  
Highway 4 off Oak Street

Contra Costa County  
Recorded Site  
(CIHR 1976:229;  
CCCPD 1976)

An early mansion in the Brentwood area, this structure was constructed in the 1850's. It is now used as a hotel and restaurant.

21. COX HOUSE

Antioch  
119 West 6th Street

Contra Costa County  
Recorded Site  
(CCCPD 1976)

An architectural example of a late 19th century Eastlake building, this two-story wood frame structure has a high gable roof and a combination of patterned wood shingles and board-and-batten siding. Two large palm trees in front contribute to a sense of time and place.

22. DARBY HOUSE SITE

East of Sand Creek Road,  
near Brentwood

Contra Costa County  
Recorded Site  
(CIHR 1976:228)

The home site of an early settler in the region, the house, no longer standing, was built in the 1850's.

23. DONLON HOUSE

Antioch  
606 West 3rd Street

Contra Costa County  
Recorded Site  
(CCCPD 1976)

This structure, built in the late 1870's, was the birthplace of James D. Donlon, former Mayor of Antioch and City Councilman for many years.

24. EMPIRE RAILROAD SITE  
MONUMENT AND SECTION  
OF TRACKS

Antioch  
Foot of F Street  
at riverfront

Contra Costa County  
Recorded Site  
(CIHR 1976:81; CCCPD 1976)

A monument has been erected to denote the narrow gauge railroad tracks of the Empire Railroad and the coal mining industry of 1877 to 1902. Coal was transported from mines to the coal wharf at Antioch by this railroad.

25. FIRST CONGREGATIONAL CHURCH  
Contra Costa County  
Recorded Site  
(CCCPD 1976)
- Antioch  
West 6th and F Streets

On June 12, 1865, Captain G. W. Kimball, pioneer settler, chaired a meeting for all those interested in forming a church. A constitution was adopted and the First Congregational Church was founded. The original church was dedicated May 16, 1869. The present structure, erected in 1891, is the oldest church building in Antioch.

26. FRY HOUSE
- Contra Costa County  
Recorded Site  
(CCCPD 1976)
- Byron  
Byer Lane

This historical structure, awaits further documentation.

27. GEDDES HOUSE
- Contra Costa County  
Recorded Site  
(CCCPD 1976)
- Marsh Creek Road, west  
side of State Highway 4,  
near Brentwood

This two-story Victorian structure was built in 1870 by Geddes, one of the early settlers in the area.

28. GEORGE HOUSE
- Contra Costa County  
Recorded Site  
(CCCPD 1976)
- Antioch  
223 West 6th Street

This is the site of the building constructed for Dr. W. S. George, physician and surgeon. Dr. George was a City Health Officer, member of the City Trustees, a school trustee, and surgeon for the Southern Pacific and Santa Fe Railroads.

29. GRANGE HALL
- Contra Costa County  
Recorded Site  
(CIHR 1976: 229)
- Antioch  
2nd and F Streets

Built in the late 1880's, this hall was one of the first buildings in the area.

30. R. B. HARD BUILDING

Antioch  
815 First Street

Contra Costa County  
Recorded site  
(CCCPD 1976)

This building was built in the mid-1860's by R. B. Hard, the first chairman and later president of the Antioch Board of Trustees in 1872.

31. HARKINSON HOUSE

Antioch  
West 4th and D Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

A Queen Anne cottage built circa 1890, the building is a one-story wood frame structure with a high gable roof and gable dormer. A turret with a "witch's cap" roof is located over the semi-circular porch which extends from the front of the structure.

32. HOFFMAN HOUSE

Byron  
Hoffman Lane

Contra Costa County  
Recorded Site  
(CIHR 1976:229)

The Hoffman house was built in 1851 by an early Byron resident.

33. HOLY CROSS CEMETERY

Antioch  
East 18th Street  
T2N R2E, Section 2

Contra Costa County  
Potential Site  
(USGS 1968:Antioch  
North Quad topographic map)

The proposed transmission line runs close by. The cemetery is undocumented.

34. INDIAN GRINDING ROCKS

Highway along Marsh  
Creek three miles south-  
east of Marsh Creek  
Springs; needs to be  
located

Contra Costa County  
Potential Site  
(Purcell 1940:96)

Indian Grinding Rocks is a site of Indian habitation.

35. IRON HOUSE LANDING                      North of Babbe's Landing,  
   T2N R3E, Section 19  
Contra Costa County  
Potential Site  
(Contra Costa County  
1871:map)

Iron House Landing was an important early landing for settlers of the Iron House and Point of Timber districts. The landing was operated by Frederick Babbe in 1859 (Purcell 1940:734).

36. IRON HOUSE SCHOOL                      Brentwood  
   Cypress Road and Sellers  
Contra Costa County                      Avenue  
Recorded Site  
(CCCPD 1976)

This early school house was built in the 1850's and is now used as a residence.

37. JEWETT HOUSE                              Byron  
   600 1st Street  
Contra Costa County  
Recorded Site  
(CCCPD 1976)

The Jewett House is a historical structure that has yet to be documented.

38. JOSLIN HOUSE                              Antioch  
   502 West 2nd Street  
Contra Costa County  
Recorded site  
(CCCPD 1976)

Noted as an early business in Antioch, the structure was the residence and harness shop of J. B. Joslin.

39. JUDGE WALLACE'S CHAMBERS              Brentwood  
   300 Oak Street  
Contra Costa County  
Recorded site  
(CCCPD 1976)

One of the oldest buildings in Brentwood, Judge Wallace had his law offices here.

40. KIMBALL HOUSE

Antioch  
West 3rd near E Street

Contra Costa County  
Recorded Site  
(CIHR 1976: 229  
CCCPD 1976)

The Kimball House was the first home in Antioch and was built in the fall of 1850 by Captain G. W. Kimball who was a Postmaster and Justice of the Peace in Antioch.

41. LIBERTY GRAMMAR SCHOOL

Empire Road and Marsh  
Creek Road near  
Brentwood

Contra Costa County,  
Recorded Site  
(CIHR 1976:229;  
CCCPD 1976)

This early grammar school site is now used as a residence.

42. CHARLES MARSH HOUSE

Antioch  
601 W. Fourth Street

Contra Costa County  
Recorded site  
(CIHR 1976:229;  
CCCPD 1976)

The son of John Marsh, first white man to practice medicine in California, Charles was an early butcher and a Justice of the Peace. The building was later the home of Judge Hartley, jurist and lawyer in Contra Costa County.

43. JOHN MARSH HOUSE

Marsh Creek Road,  
6 miles west of Byron

Contra Costa County  
Recorded Site  
(National Register, 10-7-71;  
HABS; CCCPD 1976)

This three-story eclectic stone house was designed for John Marsh by Thomas Boyd, San Francisco architect, in 1852. Construction lasted several years. The San Francisco Evening Bulletin described the Marsh House as "probably the most beautiful and complete residence in the state." It is an unusual combination of the Gothic Revival and Italian Renaissance architectural style.

44. MARSH LANDING

Antioch

Contra Costa County  
Recorded Site  
(CCCPD 1976;  
CIHR 1976:229)

This was the site of John Marsh's shipping center with a blacksmith shop, warehouse, smokehouse and landing area. This important pre-1846 landing was utilized by Marsh, Robert Livermore, and John Sutter.

45. McCABE HOUSE

Brentwood  
End of Brentwood Road  
on Byron Highway

Contra Costa County  
Recorded site  
(CIHR 1976:229;  
CCCPD 1976)

Home of H. C. McCabe, an early settler in the area, this circa-1860 Victorian residence with its patterned wood shingles and spindle and spool ornamentation, is architecturally distinct.

46. McKELLIPS HOUSE

Antioch  
504 West Sixth Street

Contra Costa County  
Recorded site  
(CCCPD 1976)

This house was built in 1886, as the home of S. McKellips, locomotive engineer in charge of the rolling stock for the Empire Railroad. He fired up the "Empire" a 15-ton Baldwin Empire, on September 22, 1877.

47. MULHARE HOUSE

Antioch  
West 2nd and I Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

The first Catholic services in Antioch were held in 1864 at this homesite. Part of the original home is enclosed within the present structure.

48. MURPHY AND WALLACE HOMES

Brentwood  
800 and 828 Railroad Ave.

Contra Costa County  
Recorded Sites  
(CIHR 1976:229;  
CCCPD 1976)

Built around 1909, these Victorian style homes represent the aspirations of two early residents in the area.

49. OAK VIEW MEMORIAL PARK  
CEMETERY

Antioch  
East 18th Street  
T2N R2E, Section 22

Contra Costa County  
Potential Site  
(USGS 1968:Antioch  
North Quad topographic map)

The proposed transmission line runs close to this site.  
The cemetery needs documentation.

50. ODD FELLOWS HALL

Antioch  
West Third and H Streets

Contra Costa County  
Recorded Site  
(CCCPD 1976)

The structure was first known as Union Hall and was also the city bakery. Later the San Joaquin Lodge #151 of Independent Order of Odd Fellows and Antioch Lodge #175 of Free and Accepted Masons held meetings here.

51. PARISH HOUSE OF METHODIST  
CHURCH

Byron

Contra Costa County  
Recorded Site  
(CCCPD 1976)

This structure was built in the 1850's as a circuit rider's house.

52. PIONEER HOSPITAL

Antioch  
West 5th. and H Streets

Contra Costa County  
Recorded site  
(CCCPD 1976)

The Pioneer Hospital was opened in 1930 by Dr. Nevino and operated by Mrs. Brooks, a nurse from San Francisco. The structure is currently a residence.

53. POINT OF TIMBER LANDING

Byron  
Indian Slough Off Old  
River

Contra Costa County  
Recorded site  
(CCCPD 1976)

In the 19th century, the Point of Timber Landing was the site of a warehouse, lumber yard, and shipping point for grain harvested in the vicinity.

54. POINT OF TIMBER  
TRADING CENTER

West Union Cemetery at  
Point of Timber Road and  
State Highway 4

Contra Costa County  
Recorded Site  
(CIHR 1976:230;  
CCCPD 1976)

This was the site of the Wolf and Kahn Store, the Lehman and Davis Blacksmith Shop, and the post office, 1869 to 1882.

55. PRESTON HOUSE

South of Smith Corners,  
west of Highway 4,  
near Byron

Contra Costa County  
Recorded Site  
(CIHR 1976:229;  
CCCPD 1976)

C. J. Preston, an early settler in the area, built this home in 1870. Preston arrived in Point of Timber in 1865 and was one of the first settlers there to raise grain.

56. REMFREE HOUSE

Antioch  
512 E Street

Contra Costa County  
Recorded Site  
(CIHR 1976:230;  
CCCPD 1976)

Built as the home of V. Remfree, a local barber, circa 1870, this residence reflects the Queen Anne architectural style. A one and one-half story structure features a two-story tower and "witch's cap" peaked roof. Gabled dormers extend from a medium hip roof. A bay with windows extends the height of the first story on the south side of the structure.

57. SMITH'S LANDING

San Joaquin River,  
east of Antioch.

Contra Costa County  
Recorded Site  
(CIHR 1976:230;  
CCCPD 1976).

Smith's Landing, built in the 1850's was the first wharf in Antioch. It was also the home site of W. W. Smith, the founder of Antioch.

58. STAMM HOUSE

Antioch  
501 B Street

Contra Costa County  
Recorded site  
(CCCPD 1976)

A one-story wood frame structure with medium gable roof and low center gable over the front entrance, this residence reflects the Colonial Revival architectural style popular in the first decade of the 20th century. The main floor is elevated over a raised basement.

59. UNION CEMETERY EAST  
  
Contra Costa County  
Potential Site  
(McMahon 1908:map)

Byron  
Point of Timber Road  
and Highway 4

This cemetery dates from the turn of the century.

60. VASCO CAVES  
  
Contra Costa County  
Recorded site  
(CIHR 1976:230;  
CCCPD 1976)

South of Byron Hot  
Springs Road

The caves were reputed to be the hideout of Joaquin Murietta, a bandit who terrorized inhabitants of the area.

61. WILLS RANCH HOUSE  
  
Contra Costa County  
Recorded site  
(CCCPD 1976)

Antioch  
319 West 7th Street

In 1868, T. N. Wills moved to Antioch and purchased 280 acres of land for farming. His house, built in 1871, was the ancestral home of the Wills family and of Helen Wills Moody, the tennis star.

62. EMMATON  
  
Sacramento County  
Potential Site

Sherman Island  
Northside of Island at  
Horseshoe Bend  
T3N R2E

Emmaton was established by Robert Beasley who settled on Sherman Island in 1855. The post office and Beasley's Ferry were located here (Wright 1880:220).

63. PERLEY LANDING  
  
Sacramento County  
Potential Site

Sherman Island, south of  
Toland's Landing, T3N  
R2E, Section 28

This landing appears near Emmaton on Eager's 1915 Official Map of Solano County (Eager 1915).

64. BROWN'S LANDING AND  
WAREHOUSE

T3N R2E, southeast  
quarter of Section 30

Solano County  
Potential Site

William Brown purchased part of Rancho Los Ulpinos in 1855, and established a warehouse and landing adjacent to Toland's on the Sacramento River (Punnett Bros. 1907:map; Thompson and West 1878b:map).

65. TOLAND'S LANDING

On the Sacramento River,  
east of Collinsville,  
T3N R2E, Section 22

Solano County  
Recorded Site  
(CIHR 1976:272)

This landing was named for Dr. Hugh Hugar Toland, founder of what became the University of California Medical School in San Francisco. Toland purchased part of Rancho Los Ulpinos in 1855, and eventually owned 11,800 acres in the Montezuma Hills. His landing connected with Beasley's Ferry which ran from Emmaton on Sherman Island.

66. J. WHITMAN HOMESITE

Montezuma Hills  
T3N R2E, northeast  
quarter of Section 20

Solano County  
Potential Site

J. Whitman settled in the corridor area prior to 1878 (Thompson and West 1878b:map).

The following ten historic resources appear in the inventory above. They are also listed separately, however, because they are located most closely to the proposed transmission line routes. For ease of reference, the numbers correspond to the order of listing in the inventory.

1. Midway, Alameda County: recorded site
4. Unidentified house and outbuildings, Alameda County: potential site
9. Babbe's Landing, Contra Costa County: recorded site

13. The Brentwood Mine, Contra Costa County: potential site
35. Iron House Landing, Contra Costa County: potential site
43. The John Marsh House, Contra Costa County: recorded site
63. Perley Landing, Sacramento County: potential site
64. Brown's Landing and Warehouse, Solano County: potential site
65. Toland's Landing, Solano County: recorded site
66. J. Whitman Homesite, Solano County: potential site



Plate 3  
Hastings Adobe/Marshall/Stratton Ranch Complex

## CHAPTER 6

### RESOURCE INVENTORY BY REGION

This chapter presents an inventory of the historic resources located in the vicinity of the project area north of the Sacramento River. (Historic resources within the transmission corridors have been described in Chapter 5.) The resources are described by "resource regions" which are shown on Map 3. These include the Hastings Adobe area, the Stratton Lane area, Lower Collinsville Road, Upper Collinsville Road, Birds Landing, the Railroad Corridor, and the Waste Disposal site. These regions have been devised in order to facilitate exposition, as well as to categorize resources into groups of sites which share some geographic and historic similarity.

#### Hastings Adobe

Lansford W. Hastings, an Ohio lawyer, first arrived in California in 1843 and soon became a promoter whose interests lay in attracting groups to settle in California. The following year he published an "Emigrant's Guide" to California, a somewhat controversial publication which favored a route commercially favorable to its author. Early in 1846, Hastings became a Mormon agent. He was charged with finding a site in California for a large colony of Mormons, who, having found

that sentiment in the eastern states was not favorable toward their new religion, started to move west into territories not controlled by the United States.

Hastings chose a headland north of the mouth of the Sacramento River for his proposed Montezuma City. He planned a town and built a four-room adobe house, anticipating a large land grant from the Mexican government. His plans for a Mormon colony in Mexican California, however, were dashed by the Bear Flag Revolt in July, 1846, and the ensuing movement toward statehood. The Mormons lost interest in California and the Montezuma townsite, and after about three years, Hastings abandoned his adobe. By 1849, he had become politically active and participated in the convention that met that year in Monterey to draft a constitution for the new state of California (Marshall 1951).

The Hastings Adobe remained unoccupied until Lindsay Powell Marshall, Sr., came to the site in 1853. Marshall was a cattle rancher and land speculator who acquired properties in Benecia and Sulphur Valley between 1852 and 1856. It was during the winter of 1852-1853 that he and his two eldest sons, John and Charles Knox, and a nephew, Parker Donika, drove a herd of cattle to California, where the elder Marshall established the young men at the abandoned Hastings Adobe (Marshall 1951).

During the interim period of abandonment, the adobe had suffered damage from transients and vandals; windows and doors had been removed and the adobe was in dilapidated condition. The Marshalls found coin-making tools such as crucibles, dyes, and copper in the house and surmised that the building had been used by counterfeiters. In 1854, after the Marshalls had improved the condition of the structure, Hastings returned to claim the adobe. According to Pauline Marshall, Hastings held no legal claim, but was compensated for the property with livestock (Marshall 1951:8). Within the next four years, Marshall

brought his wife and six other children from Missouri to the Hastings ranch. By 1860, John had established a separate household with his wife and two children (U.S. Bureau of the Census 1860c). (The Adobe Complex can be seen in Plate 3).

The Marshalls raised stock on the ranch and gradually expanded their operations by systematically acquiring additional acreage. Between 1866 and 1873, Marshall and his sons added over 1000 acres to their original holdings through a combination of cash entry patents, patents of swamp and overflow lands, and one homestead entry (Solano County Recorder 1866, 1867, 1870, 1871, 1873; U.S. Department of Interior, Bureau of Land Management 1873).

The agricultural endeavors of the Marshalls during this period shifted from cattle raising to a combination of dairying and small-scale farming. The 1870 agricultural census (Appendix B) recorded that the Marshalls had produced 1200 bushels of winter wheat, 30 tons of hay and 300 pounds of butter, and that their livestock included 200 swine (U.S. Bureau of the Census 1870d). In 1879, Marshall's ranch produced 6800 pounds of butter, the greatest amount reported in the township for that year. Marshall also kept swine, poultry and other animals sufficient for his family's needs, and planted an apple orchard and vineyard (U.S. Bureau of the Census 1880c).

During the following years, Lindsay Marshall divested himself of some of his holdings; an acreage on the eastern portion of the ranch passed into the ownership of John Kierce and Edward Jenkins, while the Marshalls retained about 400 acres (Eager 1890:map; U.S. Bureau of the Census 1880c). After the elder Marshall's death, the property passed to his wife and then, in 1897, to his son, Lindsay P. Marshall, Jr. (Eager 1890:map; Solano County Recorder 1964, Official Records 1294:628). Marshall retained ownership of the Adobe for a number of years, although he did not maintain a steady residence



### PLATE 3

#### THE HASTINGS ADOBE/MARSHALL/STRATTON RANCH COMPLEX

The Hastings Adobe/Marshall/Stratton Ranch occupied a small knoll east of Collinsville. The Marshall Cut, seen in the lower left, was developed from a natural feature during 20th century river dredging operations. Of the many buildings that stood at the site, only the adobe, a sheep-shearing shed and a garage remain. The adobe was originally built in 1846 and has undergone a series of modifications by both the Marshall and Stratton families. The adobe was enlarged with the addition of a sleeping porch, kitchen, bath and closets; interior walls were papered and exterior walls were covered with protective siding in this century. Since PG&E purchased the adobe, the company has protected this National Register site from natural elements and vandalism with fencing, new siding and other maintenance. (See Plate 2 for a closer aerial view of the adobe.)

Two clusters of trees are visible in the upper central portion of the plate. The planting to the left indicates the site of the Simpson house. To the northeast stood the "Whitman Place."

(TCR-M 1+2/26[3]:3/13/80)

there. By the 1890's, Samuel Orr Stratton had established his family at the Adobe and was farming the property (U.S. Bureau of the Census 1900; TCR Field Data). Marshall had a close relationship with the Stratton family who remembered him as a well-educated man (TCR Field Data).

Samuel O. Stratton was born to Irish parents in Canada, and immigrated to the United States in 1873. He then worked as a farm laborer for the William Brown Ranch in Solano County. In 1884, he returned to Canada to marry and brought his bride back to California. Both Strattons worked at the Brown ranch until they leased the Marshall Adobe and adjacent acreage. Sam Stratton primarily cultivated grain, although he did continue some small-scale dairying. The Strattons raised four children at the ranch. The eldest, Samuel Earl, farmed the property with his father and raised his own family at the Adobe. The Stratton family eventually purchased the property from Marshall and owned it until 1964, when it was acquired by Pacific Gas and Electric Company.

The complex which includes the Hastings Adobe was comprised of a number of other structures and use areas, most of which were related to ranching and rural subsistence activities. These included a granary, smokehouse, woodshed, and comparable small structures located near the Adobe, as well as barns, sheds, chicken houses and similar ranch buildings. Dwellings included the Adobe, a two-story building near the Marshall Cut, a bunkhouse, and a small wooden building that Lindsay Marshall, Jr., occupied while leasing the property to the Strattons. After 1924, an additional house, formerly the residence of Edith Simpson, was moved close to the Adobe.

The buildings comprising the Hastings/Marshall/Stratton ranch complex are described in this inventory with attention to their function and structural modifications in a temporal framework. The bulk of this data was acquired through inten-

sive interviews with members of the Stratton family who had lived on the ranch and were able to recount specific information from first-hand experience. Additional data was obtained from a person who had worked on the ranch for several years, and from neighbors and friends of the Strattons who were familiar with the ranch. Locations of privies and trash dumps have been omitted from this discussion due to the acute sensitivity of these features.

The Adobe Building. The Adobe was originally constructed as a square building with two protrusions on the northwest side. It had a shed roof with hand-hewn rafters, a wood plank floor, and a dirt cellar. The exterior walls were covered with wooden "sheds" and, later, by wooden siding. The shingle roof sustained damage during a fire, but has been repaired and maintained throughout the years.

The original configuration of the structure has been retained, although there have been several modifications and additions. These alterations can be dated by the period of use by the Strattons. The elder Strattons lived in the Adobe until 1924, when their son, Earl, moved his family from the clubhouse near the Marshall Cut into the family home. During an earlier period, about 1918, Earl and his young family had also lived in the Adobe with the elder couple. The needs of the extended family no doubt influenced a number of modernizations.

The first major addition to the structure was a small kitchen built onto the northeast side, with a door cut through the thick adobe wall. Cooking for the family and hired ranch workers was done on a wood stove in the kitchen. About 1920, the Strattons added a sleeping porch onto the river side of the dwelling--a narrow, screened enclosure which did not extend the length of the building. Canvas was rolled down over the screened windows in the winter.

When the younger Strattons moved into the Adobe in 1924, the parents retired to a small wooden house which they had moved to the site and placed north of the Adobe. At this time, a number of modifications were made to the Adobe. With the assistance of a Mr. McKenzie, the Strattons added a bathroom and enlarged the kitchen. The bathroom was a shed-like wooden room next to the kitchen, which featured a sink, toilet and a footed tub. The water and sewage were piped from the bathroom to the end of the slough. The kitchen was enlarged and a door added to the exterior. During the 1920's, the Strattons built a woodbox on rollers, accessible through an outside wall, to facilitate filling it with firewood. This woodbox was used until the wood stove was replaced by a gas model. Water was also piped to the kitchen sink; prior to this time, water was carried from an outside pump. Foods were kept in a cooler (a ventilated cupboard), and a large pantry. The floor of the kitchen was strengthened with under-bracing.

Under the direction of Earl Stratton's wife, Hazel, the interior adobe walls were covered with wallpaper. This was a laborious process which involved applying a flour-and-water paste to a layer of cloth, then plain paper, then wallpaper, to the crumbly adobe surface. The wood-plank floor was covered with carpets, and wood trims were painted. A trap door was added at the head of the narrow stairway to the attic bedroom.

Further modifications were made during the 1930's. The projections of the adobe's northwest wall were transformed into closets. The center extension had originally been the front entry into the parlor, although the Strattons had never used it as such. About 1938, the old porch on the south side was torn down and replaced by a wider porch which extended the entire length of the adobe. This newer addition, featuring a wooden-shuttered row of windows, was divided into two rooms by a wide storage partition. The small room this created was used for a bedroom, while the larger section served as a dining and family room.

Steps outside a corner of the kitchen led to a cellar--a small, dirt room excavated under the kitchen. Here, wooden shelves were built along the walls for storage of dairy produce and home-canned foods.

Ranch Buildings. The buildings on the Marshall/Stratton ranch can be categorized according to two time-phases: a period before 1924-1925 when the buildings remained much as Lindsay Marshall had known them; and the period after that date, when the Strattons remodeled the existing structures and added an additional dwelling. Perhaps the most interesting, and one of the oldest, of the outbuildings was the one built near the Marshall Cut. This was a two-story, unpainted redwood building, built on stilts and set against the hill on the west side of the tule marsh. Reportedly, it was originally used as a dairy house, but is most commonly referred to as "the clubhouse," a term which refers to its use by the Montezuma Duck Club. The marsh, which became known as the Marshall Cut when dredged, was a favored spot for duck hunters who frequented the area. During the early 1920's, Earl Stratton's family lived at the clubhouse. The main floor of the structure featured a large kitchen facing Mt. Diablo, a bedroom, a living room, and a large porch which faced the slough. Upstairs were four bedrooms arranged approximately in a square. The structure was eventually dismantled and removed from the area by one of Earl Stratton's daughters. Along the bank of the slough, from the end of the cut to the river, were a number of use areas: a pig pen, an orchard, the clubhouse, a windmill, chicken houses, and a small shed used for milking cows. A hand-dug well was located near the river.

Several small buildings dated from the Marshall's occupation. These included a small wooden structure in which Lindsay Marshall, Jr., lived while the Strattons worked the ranch. The Strattons later used this building as a granary. A blacksmith shop and a bunkhouse were situated near Marshall's house and

the Adobe. The blacksmith shop consisted of two rooms, containing a forge and tools used by Earl Stratton for sharpening knives and other light maintenance chores. About 1924, these three structures were relocated near the slough. Other buildings dating from the early era of the ranch included a garage (carriage house), a large barn, and a smaller barn. The larger of the two barns was typical of those found in the area: the big center section had a loft for storing hay; this was fed to the dray horses through feeding troughs on either side of the section. The grain harvester was kept in one side, and an attached lean-to served as a buggy shed.

These older structures were augmented by a wagon shed and a second garage. A woodshed and a children's playhouse were set up near the Adobe. A sheep-shearing shed and a tractor shed were built after 1912. The ranch also had a number of smaller features, such as pig pens, water tanks, and windmills. The water tanks were built on raised frameworks to accommodate a square, screened enclosure underneath, called a "safe," in which foods were kept cool. Of the two windmills in the ranch complex (one near the clubhouse and another near the garage area), the former was much older. A windcharger near the Adobe furnished power for the ranch until 1947, when electricity was first brought in to the Stratton home.

River dredging operations during the early 1900's to 1920's altered the configuration of the ranch property, much of which included swamp and overflow lands. Lindsay Marshall, Jr., engaged in litigation in an attempt to prevent the loss of this land, but he failed. In 1913, the courts condemned 41.03 acres for the purpose of straightening the channel of the Sacramento River. The United States was awarded a perpetual easement containing 41.83 acres to be used as a spoil bank adjoining the channel for the deposit of soil taken from the channel, dredging, and the construction of banks (Solano County Recorder 1913, Book of Deeds 208:47). Dredging transformed the tule

marsh near the clubhouse into a slough, known as the Marshall Cut. The cut became a popular swimming hole for local residents. The Strattons maintained a duck pond at the end of the slough and kept two or three small boats moored to a platform near its mouth (TCR Field Data).

The present configuration of the ranch site gives little insight into its previous complexity. Many of the buildings have been removed or destroyed; there are only the Hastings Adobe, the sheep-shearing shed, and a garage left standing. Fences, remains of the water tanks, and other surface features are visible.

The Adobe was well-maintained during its occupancy as a farmhouse, but suffered considerable damage from neglect and vandalism after the Strattons sold the property in 1964. Bottle hunters had dug in the cellar and explored other areas in search of privies and dumps. Under the sponsorship of Mr. Wood Young and the Solano County Historical Society, the Hastings Adobe was placed on the National Register of Historic Places on June 13, 1972. Since then, PG&E has taken measures to preserve the adobe from further damage. The current condition of the adobe is described by conservator Myrna Saxe in Appendix E.

#### Stratton Lane

The Stratton Lane resource area is comprised of small farms or homesteads, the first of which were established during the 1860's. The earliest property owners were the Collins and Marshall families, both of whom patented large parcels. During the period from 1870 to the early 1900's, the area supported intensive dairying on the lush pasturage afforded by the swamp and overflow lands (Solano County Board of Trade 1887:84). Farmers also raised swine, alfalfa, hay, and grain.

After the turn of the century, the Stratton Lane area was materially affected by extensive river-dredging projects which covered the rich peat soil with several feet of sand. The plant ecology changed from sweet grasses and tule to pickle weed and salt grass. In the process, the quality of pasturage was substantially reduced and the economy of the area necessarily changed from dairying to other agriculture activities. The small parcels were not suited to profitable grain crops, which required extensive acreage. Several of the residents augmented their income by working as farm hands on other ranches. Charles Dadami built and operated a grain-storage warehouse.

The separate historic sites in the Stratton Lane resource area may be discussed as a resource region in view of their geographic proximity and economic similarities. The close interpersonal relationships of their inhabitants also bind the resources together. Affinal and non-kinship relationships among the Stratton Lane families developed through the generations. Some of these close bonds have been sustained to the present.

Site 61H. This is the site of the Simpson house and barn. The house was a small one-story wooden frame structure, with porches running the length of two sides. The house and a small shed were located on a knoll, approximately 122 meters due west of the Stratton Adobe, on part of the Dadami property. Both structures are shown on a 1908 survey map (U.S. Army Corps of Engineers).

The house was the residence of Edith Simpson, eldest daughter of Charles Dadami, and her family. Her son Charles worked many years as a farm laborer for Earl Stratton. He married Emily Esperson and lived for a time in the Esperson home on Stratton Lane. In her later years, Edith Simpson lived with the Espersons and also established a residence in Collinsville.

About 1925, Earl Stratton moved the house to his ranch where it faced the north side of the Adobe. It was used as a residence for Samuel Stratton and his wife until the latter's death in 1941. The building was standing until the mid-1960's.

Site 65H. The Whitman place is a fairly recent homesite. Charles Whitman married Pauline Dadami, daughter of Charles Dadami, one of the earliest farmers in the area. By 1913, Dadami had deeded a 2.65 acre parcel of his property to the Whitmans (Eager 1913). The complex, situated on a knoll or rise, included a house with a well, a barn, and another out-building west of the house. Ornamental pepperwood trees decorated the yard and a fruit orchard was planted south of the dwelling. Charles Whitman worked on nearby ranches and "drove horses." He also worked in the nearby Dadami warehouse and "practically took over the warehouse" after Dadami died in 1917 (TCR Field Data). Mrs. Whitman and their three children also worked in the warehouse. Following Whitman's death, his widow was cared for by her daughter. Although none of the family members maintained residence at the homesite, the property remained in the family until acquired by PG&E.

A short distance south of the Whitman house was a small, one-room cabin or "shack" which sheltered Johnny Chapin (1888-1954). Chapin cultivated a small vineyard behind the house, but no other improvements to the property are known. He worked as a chore man on the Stratton ranch and is said to have been a trapper. According to one consultant, he trapped skunks and rendered the oil into tallow for tanning leather. Chapin apparently had no family or close friends but was cared for by the Strattons.

Site 1H. This site is commonly referred to as the "Donald Ranch," a title which reflects its purchase, about 1900, by Robert Donald. The property was originally part of a 160-acre parcel homesteaded by John Marshall in 1873 (Solano County

Recorder 1873: Book of Patents 3:261). It was added to the adjacent 120 acres acquired by John's brother, C. Knox Marshall, through a cash entry patent in 1871 (Solano County Recorder 1871, Book of Patents 4:356). Historic maps of 1877 and 1890 indicate that C. Knox Marshall held title to the combined 380 acres during that time (Eager 1890; Thompson and West 1878b). Robert Donald, a property owner with extensive holdings in the Montezuma township, acquired the Marshall property about the same time that he purchased several hundred adjacent acres from the Upham estate. Donald subsequently leased the Marshall property to Samuel Stratton, who farmed the land.

The farm building complex consisted of a small two-story wood frame residence facing the Sacramento River. Chicken houses and a tool shed were located within a perimeter planting of eucalyptus trees. Pepperwood dotted the yard, and three fruit trees marked a line behind the kitchen. A water tower was situated at the rear of the house, and a large barn and windmill were located at some distance north of the house in a low draw. The house appears on maps as early as 1873 and 1877 (U.S. National Archives 1873; Thompson and West 1878b). About 1920, Earl Stratton built a large sheep barn on the property, southwest of the house. The barn, approximately 67 meters by 35 meters, was constructed of vertical redwood plank siding with a corrugated iron gable-end roof.

Earl Stratton and his wife moved into the house in 1908 when they were first married, and lived there until about 1917. During the 1930's, the home was rented as housing for employees of the cattle company near Collinsville. After that time, the dwelling remained vacant and its condition was allowed to deteriorate. The house and adjacent sheds are no longer standing. The sheep barn, however, displays signs of recent and continued use.

Site 2H. The Dadami ranch is one of the earliest in the Stratton Lane resource region. Charles Dadami emigrated from Switzerland to the United States in 1869 (U.S. Bureau of the Census 1880c). He married another Swiss immigrant about 1875, and began raising a family on a 110-acre ranch near Collinsville. By 1890, he had acquired an additional 20 acres (Eager 1890:map).

The farm was small and diversified. In 1880, the farm, including land, fences and buildings, was valued at \$1900, compared to the neighboring Lindsay Marshall ranch which was valued at \$7000 (U.S. Bureau of the Census 1880c). Dadami raised poultry, swine, dairy and beef cattle, and planted 40 acres in wheat. He also maintained a one-acre vineyard and made his own wine. He sold butter (2000 pounds in 1879) and raised alfalfa. In addition to farming, he operated a warehouse for storage of grain for shipping.

The Dadami house was a one-story wooden frame building with a kitchen on the south side. It was situated on a knoll, among eucalyptus and pepperwood trees, north of present-day Stratton Lane. From Stratton Lane, a driveway curved through the swale and up the hill toward the house. A windmill, well, and shed were located at the base of the hill adjacent to the road. The house had a cellar which, according to a bottle collector, had contained a large number of beer and whiskey bottles dating from the early 1900's. Dadami also used the basement as a wine cellar. The house was occupied by a member of the Dadami family until the property was sold in the 1960's.

The Dadami warehouse (Location 8H) was located south of the residence near the Sacramento River. Charles Dadami and Samuel Stratton dug a canal from the river to the warehouse to accommodate barges which carried the grain to mills in the Bay Area. West of the canal stood a small shed or bunker, where Dadami stored coal for sale. The warehouse, shed, and canal appear on

a 1908 map (U.S. Army Corps of Engineers). Sacked grain was brought to the warehouse on wagons (and later by truck) from the various farms. There the grain was weighed and stacked for storage, using hand-operated pulleys. The grain sacks were loaded onto barges by means of a chute or hand trucks. The warehouse was a large, barn-like structure of redwood planks, built on two levels. The upper portion stood at the top of a knoll and the lower portion rested on a terrace closer to the canal.

The warehouse was operating into the 1920's as long as grain shipments by water-transport were active. During the 1930's, the B.B. Cattle Company near Collinsville bought much of the grain produced locally, and the warehouse business decreased. One consultant remembered that the bunker was used as a beer cooler. The warehouse was standing as late as 1941, but the shed was not (U.S. Army Corps of Engineers 1941:map). The warehouse was sold to Louis Dadami, a nephew of Charles Dadami, who dismantled the structure and used the redwood for residential construction.

Site 6H. This farm was originally established during the 1860's by the Rice family. The land was owned previously by C. J. Collins. The 1870 agricultural census indicates that the farm consisted of 56 acres worth \$1500 (U.S. Bureau of the Census 1870d). Charles H. Rice also acquired a 170-acre parcel of land owned by his brother, located between Collinsville Road and Montezuma Slough near the Upham ranch (T3N R1E, Sec. 21), which was valued at about \$2000 (Thompson and West 1878b:map; U.S. Bureau of the Census 1870e).

In 1870, the Stratton Lane ranch produced 730 pounds of butter and 30 tons of hay. Rice had 20 "milch" cows, 13 other cattle, and 80 swine (U.S. Bureau of the Census 1870c). By 1880, however, Rice had turned his energies toward producing barley on the Montezuma tract, keeping only a limited number of

dairy cattle, swine, and poultry (U.S. Bureau of the Census 1880c).

By 1909, Rice had died, leaving his property to his widow, Eva (Eager 1909:map), who retained ownership but leased the property. James Halloran rented the property from about 1910 to 1915. Manuel Machado rented the farm in 1915 and ran a dairy there until 1927, when he purchased a farm on Shiloh Road. The Machados ran 40 head of dairy cattle on the rich peat marsh and augmented the natural pasturage with hay hauled in from another ranch. They took cream to the Montezuma train station for shipment to a creamery in San Francisco.

The house was a two-story building, with shiplap siding painted gray. It had ten rooms, four on the upper floor, with no electricity or telephone. The front entry faced north; porch and exterior staircase were on the west facing (Plate 4). After the Machados moved in 1927, the house remained vacant for a number of years. It was dismantled during the late 1940's by members of a Vacaville church group.

The ranch buildings included a large dairy barn, about 40 by 60 feet. The west side of the barn had stanchions for milking cows; calves were sheltered on the east side. The barn was large enough to store 85 to 100 tons of hay. A small building between the house and the barn housed the hand-operated cream separator. North of the barn were two "hog houses," a feed-storage building and a hog corral. North of Stratton Lane were a 10-acre pasture, a similar large dairy barn, and a small hog shed.

The well on the Rice/Machado farm produced fresh water which was shared with the Espersons and Collinsville residents, whose wells were saline. The Machados planted a one-acre garden south of the house, where they raised sweet corn and other vegetables. They also raised chickens and hogs for their own use and for sale. Collinsville residents gave them salmon and

PLATE 4

THE RICE FARM, ca. 1920

This farm was typical of small-scale farms and dairies in the Stratton Lane area. Charles H. Rice first occupied the land in the 1860's. The Manuel Machado family operated the dairy between 1915 and 1927. Machado and his son, Douglas, are shown in the foreground. The date of construction of the house has not been determined, although it is expected that the structure dates from the 1870's or 1880's. The farmhouse was dismantled in the 1940's. The remains at the site are described as historic archaeological site number 6H. This kind of small scale dairy operation depended on the lush growth of the natural marsh adjacent to the river. Reclamation projects covered this area with virtually sterile soil, eliminating feed, and thus altering the economy of the area.

(Photo courtesy of Mr. Douglas Machado)

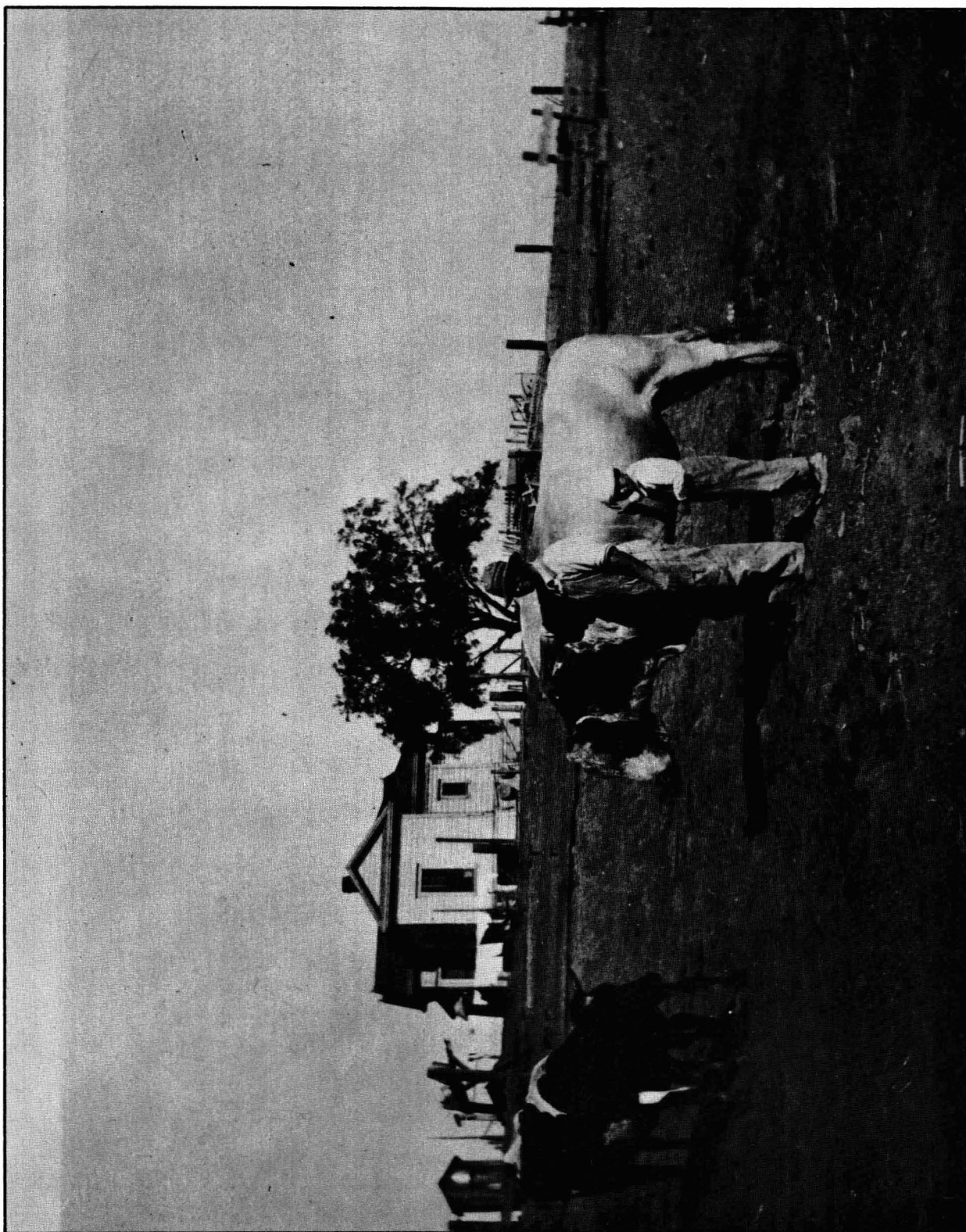


Plate 4  
The Rice Farm ca. 1920

sturgeon, and they caught river catfish and shot Canadian geese in the nearby Montezuma Hills.

Site 4H. The Esperson farm on Stratton Lane was a small dairy operation. The Espersons were a Danish family who had leased farm land in Denverton township and moved to Collinsville about 1912. Previously the property had been owned by J. C. O'Neal (Eager 1899a). The Espersons established both affinal and non-kinship relationships with other Stratton Lane residents. They were related through marriage to the Dadami and Simpson families (as well as to the Jorgenson family of Lower Collinsville Road). One son, Richard Esperson, worked at the Stratton ranch after graduating from the Collinsville School in 1915.

The Esperson house and outbuildings were built on a low knoll on the north side of Collinsville Road, immediately east of the Catholic church. A plank walk led from the road to the house; another connected the house with a shed on the east side. Several smaller structures, such as chicken houses, a water tank and a windmill, were situated to the north of the home. A large barn and another farm building stood east of the shed. None of these structures is standing at present. The house site is marked by a small palm tree stump and a eucalyptus tree (Plate 5).

Dairy cattle were grazed in the low marsh south of Collinsville Road. The cattle were run from the main farm complex under a road trestle to an L-shaped tract of tule land. Hay for the cattle was raised on the property north of the house. The Espersons sold milk, cream, and chickens in Collinsville. During the winter months, the plank road to the town often flooded, and the Espersons crossed the tule marsh by row boat to make their deliveries.

PLATE 5

THE ESPERSON HOMESITE

The Esperson family purchased an existing farm and ran a small-scale dairy on Stratton Lane in the early 20th century. The farmhouse and outbuildings were constructed on a hill north of the road, immediately east of the Catholic church. None of these structures remain at present. Archaeological remains have been recorded as historic site number 4H.

(TCR-M 1+2/28[6]:3/14/80)



Plate 5  
The Esperson Homesite

Site 5H. The knoll at the northeast corner of the intersection of Stratton Lane and Collinsville Road was the site of three complexes, the Esperson ranch (Site 4H) being the most easterly. Site 5H is comprised of the Collinsville public school property and St. Josephs Catholic Church.

The Catholic church was located between the Esperson property and the school. It consisted of a rectangular wooden-frame church building and privy. The church windows had curved mouldings and the building featured a bell tower or steeple. The church building was destroyed by fire twice and rebuilt on the same location. It served the predominantly Catholic communities of Collinsville and Grizzly Island. The Collinsville church was considered a "mission" by the Catholic diocese and was served by priests from Rio Vista or Suisun. It is estimated that the church functioned from the 1890's through the 1920's, or later (Eager 1890, 1909, 1915; TCR Field Data). The building was dismantled during the early 1950's, and a decade later, the property was sold by the Church to PG&E.

The Collinsville School site first appears on historic maps in 1872 and 1877 (Henning 1872; Thompson and West 1878b:map). Details of the structure were provided by a former teacher and several former students. The school building was an L-shaped structure (north/south, and east/west) with an anteroom in the south wing. It had a porch and alcove off the two school rooms. A basketball court was located parallel to the west wall of the structure in the school yard, and a flagpole stood south of the school in the front yard. East of the building was a shed originally used for horses and carts, and later as a teachers' garage. South of the shed were a water tank and a windmill. A fence enclosed the entire school complex.

The school served the Collinsville children and the children of the ranches on Stratton Lane and Lower Collinsville Road, south of Talbert Lane. Two classes were organized:

first through third grade and fourth through sixth grade. During the 1920's, attendance was estimated at about 20 to 25 students per class. Attendance declined in the following decades until the structure was sold and dismantled about 1952. At present, few signs of the school are visible except scattered debris and a well-worn depression on the southwest corner of the property, where generations of school children slid down the hill.

#### Lower Collinsville Road

Lower Collinsville Road is comprised of the area along the artery running north from Collinsville as far as Talbert Lane. This road hugs the western edge of the Montezuma Hills and borders the lowlands near Montezuma Slough. Much of the land in this region was held as a unit until about 1900, when it was divided into small parcels. It includes elements of the expansive 19th century Upham ranch complex as well as later, more modest farms. During the 20th century, a succession of livestock companies also made a mark on the landscape. The result has been a hodge-podge of architectural styles and functions in a concentrated area (see Plate 6).

Site 95H. The Collinsville cemetery is comprised of two distinct properties: the Roman Catholic (St. Charles Borromeo) cemetery and the Protestant Episcopal (St. James) cemetery. The land was formerly part of the Emery I. Upham property. On December 11, 1890, Upham conveyed a parcel to the Episcopal Church for a church lot and cemetery (Solano County Recorder 1913). About the same time, the Catholic cemetery was laid out. The earliest grave markers in the Collinsville cemetery, dated 1896, are found in its Catholic portion.

Following Upham's death, the land was surveyed at the request of John Talbert and Charles Dadami (Eager 1897-1898).

## PLATE 6

### LOWER COLLINSVILLE ROAD: THE UPHAM ESTATE

The Lower Collinsville Road region comprises a diversity of historic resources. In the foreground are the feeding pens and barns of the McDougal Livestock Company, the most recent of a succession of intensive cattle raising ventures at this site. The home of Emery Upham was situated in the rectangular open field in the central portion of the plate. Upham was a major figure in the development of the town of Collinsville and operated the largest early ranch in the Montezuma Hills. The larger of the two barns at the base of the hills was part of the original Upham complex (ca. 1865-1897). The homes of the Howard and Hansen families lie along Collinsville Road north of the Upham ranch headquarters. These parcels were subdivided from the Upham estate after his death in 1897. Talbert Lane, which can be seen leading east into the hills, marks the boundary of the Lower Collinsville Road resource area. The large white structure at the upper left of the plate is the historic Muzzy home.

(TCR-M 1+2/24[3]:3/13/80]

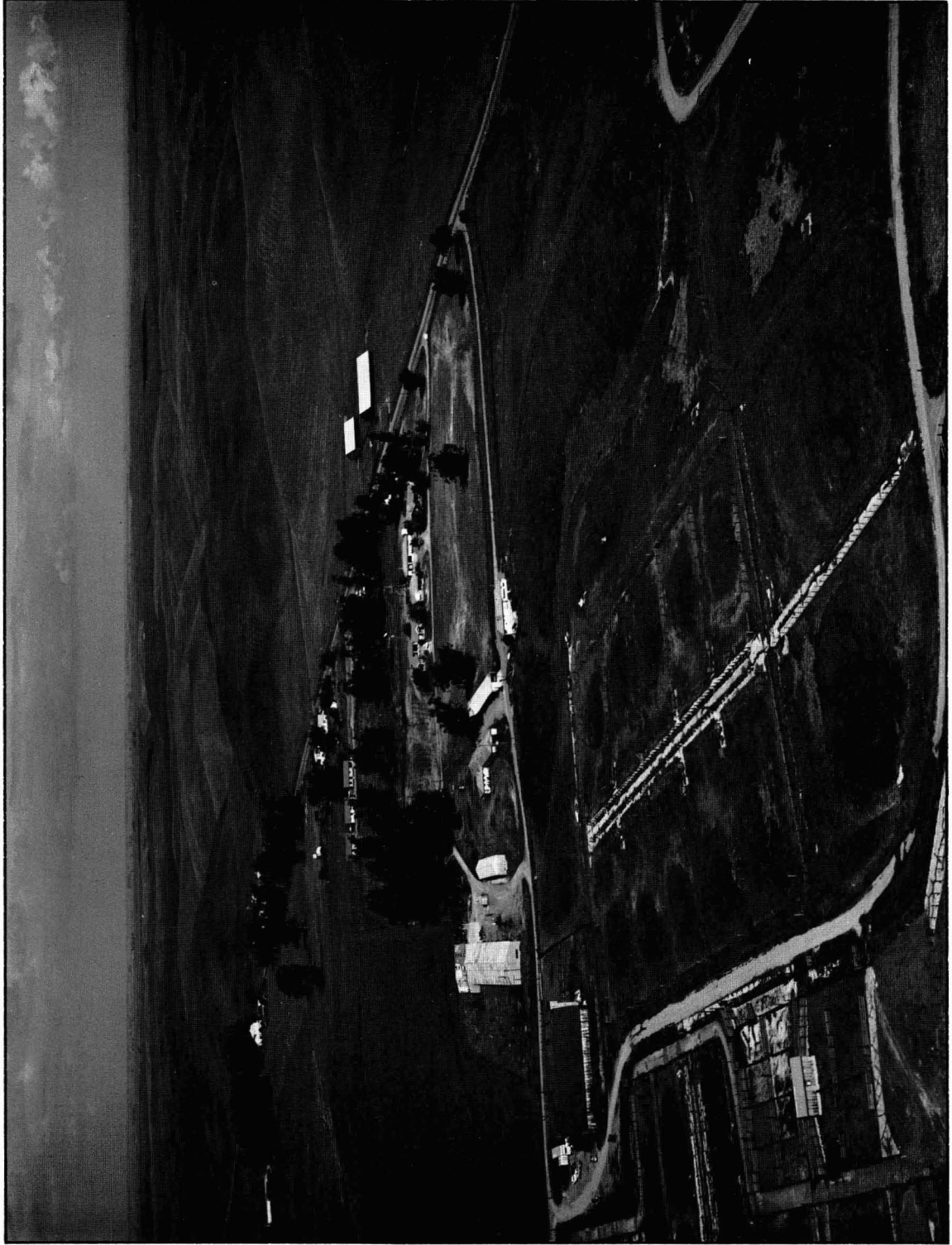


Plate 6  
Lower Collinsville Road: The Upham Estate

Charles Dadami, one of the early settlers in the Collinsville area, was active in community affairs; he and his family were also active in the Catholic church. (The Dadami property is situated within the proposed plant site and is discussed along with other Stratton Lane resources.) John Talbert came to California from Canada and worked for Upham as a blacksmith. By the late 1870's he had purchased a 360 acre ranch from Upham. He increased his holdings and by 1909 owned over 627 acres located two miles east of Collinsville Road. Talbert Lane is named after him (Eager 1890, 1909). He served as the township constable and was instrumental in the establishment and maintenance of the Episcopal church and cemetery in Collinsville (TCR Field Data).

The configuration of the cemetery boundaries was altered about 1930, when the B. B. Company claimed some of the property and later relinquished some (Eager 1930; TCR Field Data). Ownership of the cemeteries is retained by the respective churches.

The Protestant Episcopal Church was established during the 1890's to serve the Lower Collinsville Road/Montezuma Hills area. It has been referred to locally as "Talbert's Church" because John Talbert was instrumental in bringing ministers from Fairfield to the church for services. Services were held regularly until the mid-1920's. The building was left standing until the late 1930's or early 1940's when it was dismantled and moved to the Napa Valley (TCR Field Data).

The church building was a rectangular wood structure, built on the knoll adjacent to the Collinsville cemetery. An access road and hitching posts marked the southern limit of the property. The church featured stained glass windows with curved mouldings; the high pitched roof supported a cupola with a bell. Associated with the church is a redwood outhouse--an octagonal channel rustic structure--which remains standing.

Its roof culminates in a decorative octagonal spike, and the walls are topped with lattice work.

The Upham Ranch. The core of the Emery Upham ranch complex was located in the Lower Collinsville Road area. Upham is an important figure in the history of the Montezuma Hills and Collinsville. His influence in the area during the last quarter of the 19th century was perhaps greater than that of any other individual.

Upham was a bachelor farmer born in Maine (Munro-Fraser 1879:488-489). He and his brother moved to California and acquired substantial agricultural holdings--Emery in the Montezuma Hills, his brother on Sherman Island. By 1870, Emery Upham reported owning 6500 acres valued at \$60,000. On the agricultural census that year (Appendix B), Upham reported owning livestock worth \$22,000, including 4000 sheep, 350 cattle and 100 swine. His ranch produced 16,500 bushels of winter wheat and 450 tons of hay, and he estimated the value of all farm productions that year at \$30,000. Upham employed year-round labor on his ranch and paid \$4000 in wages (U.S. Bureau of the Census 1870d).

In 1872, Upham purchased Collinsville and much of the acreage north of the town. The land had been part of a Mexican land grant, called El Sobrante, given to Jose de la Rosa in 1845, and sold to J. M. and J. L. Luco in 1853. According to Wood Young, a Solano County historian, the property was mortgaged to the General Vallejo family six months later. C. J. Collins negotiated a purchase from the Luco brothers of 650 acres at \$1.00 per acre and an adjacent 374 acres at \$3.00 per acre, contingent upon survey and confirmation by the courts. However, the Luco grant title was not recognized by the courts and Collins was required to "repurchase" the land from the State in 1861 (Young 1962).

Collins purchased additional land, eventually owning 2800 acres. He sold most of the property in 1862 to S. C. Bradshaw, a promoter who envisioned a thriving 2390-acre metropolis he called Newport. Financial losses, however, forced a sheriff's sale of the property in 1869. Three years later, Emery I. Upham bought the townsite and adjacent acreage for \$33,000 (Young 1962).

Upham established a ranch complex north of Collinsville and from there supervised his ranch and other businesses, which included a hotel, saloon, and general store. The Upham ranch spread over the Montezuma Hills to the east and encompassed swamp and overflow land toward Montezuma Slough. By 1880, Upham owned 8100 acres of agricultural land which yielded \$25,000 in farm products. He valued his farm, including buildings and fences, at \$120,000. Wheat was a major crop, but barley and hay were also grown; and sheep, beef and dairy cattle were also important sources of income. In 1879 the farm made 5000 pounds of butter, an amount surpassed only by Lindsay Powell Marshall, Sr. (Appendix B). Upham also kept poultry and swine, and planted seven acres in apple and peach orchards (U.S. Bureau of the Census 1880c).

The hub of this activity was a complex which included the Upham residence, bunkhouse, cookhouse, barns, and blacksmith shop, as well as other related features (See Site 14H). These buildings and use areas have been, for the most part, obliterated.

When Upham died on September 12, 1897, his estate was valued at \$365,313.93 (Young 1962). Much of the land was divided and sold to other Montezuma Hills ranchers. Several hundred acres between Collinsville Road and Montezuma Slough were bequeathed the Orphan Home of the Independent Order of Good Templars. The Good Templars retained the property for a number of years before selling it. By 1912, A. M. Merrill had acquired the land (California Department of State 1914).

Merrill's acquisition of the property marks the beginning of a significantly different land-use pattern for the Upham property. Merrill and subsequent owners recognized the value of the fertile marsh land for intensive agribusiness. About 1913, it was made more attractive by the construction of the Sacramento Northern Railroad, which provided ready access to markets.

One of the early ventures on the property--the Montezuma Ranch--raised cotton and sugar cane, but the yields were low. After these crops failed, hogs were raised. Local residents remembered a succession of livestock companies--B. B. Company (circa 1930), Fontana Farms, Baby Beef (circa 1940's), and McDougal Livestock Company (circa 1950). One consultant stated that Fontana Farms had been operated by Mr. Boyle and was affiliated with the huge cattle empire of Miller and Lux. The Collinsville facility at one time ran 15,000 to 16,000 steers, and farmed parts of Grizzly Island (TCR Field Data). McDougal Livestock sold its holdings to Title Insurance and Trust, the current owners, about 1967.

The livestock businesses brought in seasoned cattlemen from dust bowl states such as Texas, Arkansas, and Oklahoma, providing jobs for many of the local residents. At their peak, during the 1930's to 1940's, livestock operations employed approximately 50 to 60 people in such occupations as carpenters, cowboys, feed truck drivers, and mill operators. Local ranchers assisted in the building of barns, fences and warehouses. Farmers with trucks helped to haul lumber, equipment, and cement from the railroad to the feed lot during its construction; they also manned fire hoses to quench spontaneous barn fires caused from storage of green hay. In turn, the livestock companies bought alfalfa and grain from nearby farms. Workers either rented housing or boarded with local families.

The physical evidence of these operations is evident today. Fenced cattle pens, barns, and sheds clearly define the site. Concrete block houses, built for company employees, are used as rental properties. Few of these structures are more than fifty years old, one exception being a standing barn situated southwest of the main building complex. This large wooden barn apparently precedes the later buildings. The A. M. Merrill residence, standing until the mid-1960's, was a two-story house which was thought by one consultant to have been built by Emery Upham. It later served as the home of Paul Fritts, a cattle company employee, and was commonly referred to by consultants as the "Fritts' house" (Fritts married Earl Stratton's daughter, Theo). The house was torn down and a modest, one-story cement block home, currently occupied by Clifford and Dora Dana, was built on the site. The McDougal Livestock Company also constructed several similar residences for employee housing; these were located near the Fritts house and north of the eucalyptus grove near the property line. Archaeological survey of the area produced additional historic material, including remains of a water tower (Location 30H; cf. Location 24H).

The Hansen property was formerly a part of the Emery Upham estate. In 1899, following Upham's death, a 22.94 acre parcel was surveyed as a separate tract (Eager 1899b). William ("Billy") Hansen and his wife purchased the property. Hansen worked as a farm laborer on various ranches in the area. The Hansen house, which remains on the property, is a simple, vernacular one-story farmhouse. An enclosed porch extends the length of the front facade. The house has been used as rental property for a number of years.

A lot in the northwest part of the property, divided from the main holding, is the location of the Ford Day house, built

when Fontana Farms was active (1930's). Day was carpenter crew foreman for the cattle company. The property is currently owned by Richard Dana.

About 1900, the Hansens sold five acres of their property to the Howards. Dennison Lockwood Howard was an engineer from San Francisco. His wife Mary's sister, Alice Walls Hansen, convinced the Howards to move to Collinsville, where they raised their six children. Their daughter, Hazel, married Earl Stratton in 1908. None of the other Howard family members remained in the Collinsville area. Dennison Howard died in 1917 and the house was rented to Jim Halloran. Mary Howard sold the property to Carl Jorgenson in 1920 (Solano County Recorder, Books of Grantees 1850-1940).

The house has belonged to the Jorgenson family for two generations. Carl Jorgenson emigrated from Denmark at the age of 17 (about 1907), and began working for the Young ranch (later the Neal Anderson ranch) on Collinsville Road. He married Clara Esperson, daughter of a Danish family living on Stratton Lane. Their son, Ernest, currently occupies the historic structure.

The house is a two-story channel rustic sided vernacular structure in the Italianate mode and features a hip roof. On the front facade, the upper story has double-hung six-over-six windows. After about 1920, the lower front facing was enclosed with a screened porch, and a garage was built near the road. The house is surrounded by the original picket fence.

Site 14H. Two weathered redwood barns mark this area as part of the Emery Upham ranch. During the 1870's, Upham established the headquarters for his vast agricultural holdings along both sides of this section of Collinsville Road. East of

the road stood four or five barns, a blacksmith shop, and a farm house; one consultant also remembered a cookhouse. The buildings were arranged in a north-south orientation.

About 1899, Robert Donald acquired this parcel from the Upham estate. It consisted of about 712 acres bordering Collinsville Road to the west, and including much of the land between Talbert Lane to the north and Stratton Lane to the south. In 1898, Donald also purchased from the Upham estate a 398-acre parcel north of Talbert Lane (Eager 1898, 1899).

The northernmost barn, which appears to have been built about 1900, is constructed of salvaged lumber and wire nails and is faced with corrugated aluminum. The second barn, appearing to be much older, is built with square nails and has a raised central floor with an earthen floor on either side. Corrals are associated with the two standing barns, and south of these structures are surface indications of the other buildings. Archaeological survey located a red brick foundation believed to be associated with the blacksmith shop. Features to the north and south of this foundation yielded china and glass fragments, as well as other historic debris, likely indicating the location of the farmhouse, cookhouse or similar structures. To the east of these features, a concentration of wood planks forms a platform.

#### Upper Collinsville Road

The area along Collinsville Road from Talbert Lane north to Birds Landing differs greatly from the resource area immediately to the south along the same artery, Upper Collinsville Road being much less densely occupied and developed. This area has retained to a large extent its original character of large grain and sheep farms, established in the 1860's and 1870's.

One large barn, which is still standing, has been documented to be over 100 years old.

Location 21 H. Following the death of Emery Upham in 1897 (Young 1962), his estate was surveyed and divided. A 13.43 acre parcel west of Collinsville Road near Talbert Lane was purchased by Mrs. Bridget Sullivan. In 1898, Mrs. Sullivan also purchased an adjoining 383.5 acre parcel east of Collinsville Road from the Upham estate (Eager 1898, 1899b). Mrs. Sullivan was a widow who farmed, with the assistance of her four sons, several large tracts of land in the Birds Landing/Collinsville area (U.S. Bureau of the Census 1900). After her death (circa 1910-1914), William A. Sullivan inherited the Collinsville Road property (Eager 1909, 1915).

The Sullivan ranch included a one-story house set back from Collinsville Road about 15 to 20 feet. A barn and a bunkhouse stood behind the residence. None of these structures remain. Location 21H consists of a collapsed windmill and several pieces of historic farm equipment, such as an iron plow, blades, and wheels; these are situated in the small grove of eucalyptus trees which mark the Sullivan ranch.

Site 00H. The "Anderson Ranch" was established by W. Jones by the early 1870's (U.S. National Archives 1873). By 1877, the ranch had been acquired by Edward L. Muzzy and remained in the Muzzy family for four decades. Muzzy came to California in 1856 and settled in Solano County three years later (Thompson and West 1878b:67). He appears on the population census of 1870 (Appendix B) as a farmer, and also as a member of the Emery Upham household. He reported real estate valued at \$20,000 and personal property worth \$1900 (U.S. Bureau of the Census 1870e). He increased his holdings during the 1870's. By 1877 he had 600 acres (Thompson and West 1878b:67), and by 1880 he reported owning 1130 acres of land worth \$25,000. He

planted 300 acres in wheat, 30 acres in barley, and raised 350 lambs (U.S. Bureau of the Census 1880c).

By the turn of the century, Ernest Young was operating Muzzy's Collinsville Road farm. Young and Muzzy were both natives of Maine and, based on consultant data, it appears that Young may have had close ties to the Muzzy family. The 1906 San Francisco earthquake and fire prompted Muzzy family members, then living in the City, to move to the Collinsville ranch. At that time the large two-story home was built. The Muzzys returned to San Francisco after a few years and Young continued to operate the farm, employing Charles Gapin and Carl Jorgenson. The ranch was sold in 1919 to Neal C. Anderson and his son.

N. C. Anderson was one of four brothers who emigrated from Denmark to the United States in the mid-1880's, and began farming in Solano County. Anderson also owned two large tracts of land on Sherman Island, which his sons farmed. When the Collinsville Road property became available after Muzzy's death, N. C. and his son, Neal, purchased the ranch. The main ranch complex has remained in the Anderson family up to the present, with few structural changes. The configuration of the property, however, has changed; the Andersons acquired additional hill property from the William Sullivan ranch and have relinquished most of the acreage west of Collinsville Road (PG&E 1978).

The original farmhouse was a one-story wooden building built with six-over-six windows. This was superseded by the construction of the two-story Colonial revival home built on the same site in 1906. The rear portion of the original structure was attached to the back of the more recent house; the front portion stands to the north in the eucalyptus grove. The house featured carbide gas light fixtures before the house was wired for electricity, about 1928. In the kitchen, a wood

stove, and later a gas stove, was used for cooking. The house contained a central chimney (see Plate 7). Before formal telephone service was installed at the ranches, a improvised farmer's phone line was strung on the fence from the Anderson's to the Walter Bird home to the north. This in turn connected the Andersons to Birds Landing.

A large summer vegetable garden was planted annually south of the house. The large grove of eucalyptus north of the home was well established by 1919, but the smaller grove south of the residence complex was planted after 1920. The Andersons also planted a fruit orchard across the road from the house, but the heavy clay soil did not support the planting. Hog pens, scalding barrels, and other equipment, as well as various small structures common to ranches in the area, were also present.

The barns east of Collinsville Road remain virtually the same as they were 60 years ago. A large white-painted barn, a storage building to the north, and a smaller tool shed all stand against the Montezuma Hills. Another large barn west of the house is shielded from the road by the dense eucalyptus. A garage was built south of the main house. These structures, as well as the 1906 house, have been well-maintained to the present. Other buildings, such as Stan Anderson's ranch-style home, are more recent additions.

Site 7H. The property now commonly referred to as the Walter Bird ranch appears on an 1873 map as belonging to a "J. Ferrell" (U.S. National Archives 1873). The 1870 agricultural census (Appendix B) confirms that a John Farrell owned 185 acres in Montezuma township (U.S. Bureau of the Census 1870d). He grew wheat and barley and raised hogs and dairy cattle.

By 1877, the Collinsville Road farm was owned by a man named Pratt. Pratt appears in an historical atlas of the

PLATE 7

THE MUZZY/ANDERSON RANCH

This historic ranch complex is located along Collinsville Road, north of Talbert Lane. The site was first occupied by the Muzzy family in the late 19th century. The large white house was completed in 1906, replacing an earlier home, part of which is still visible to the right of the house. The ranch has been operated by the N. C. Anderson family since 1919. The majority of the structures on the ranch have been in use at least since the early Anderson occupancy. This view is to the northwest.

(TCR-M 1+2/19[5]:3/13/81)

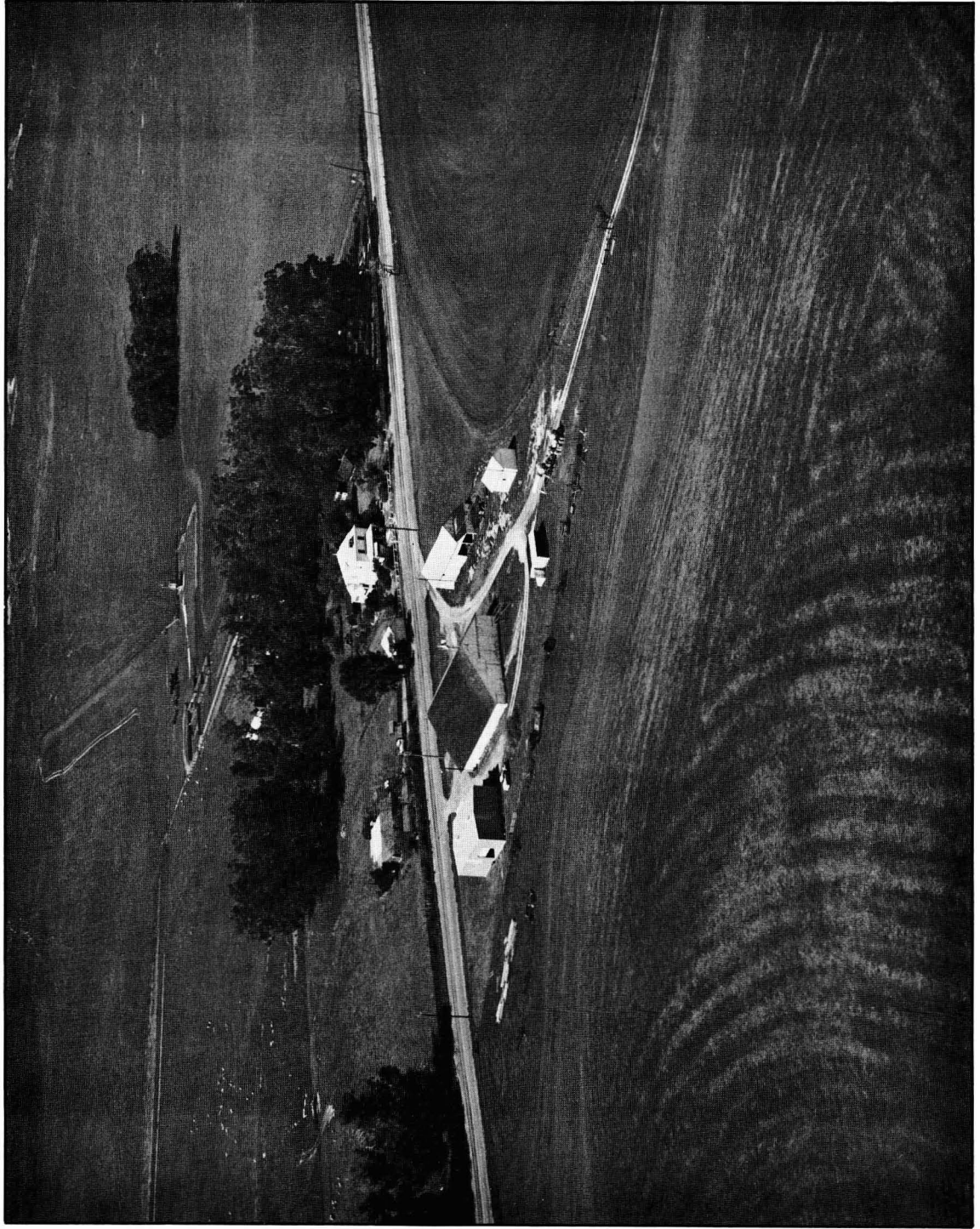


Plate 7  
The Muzzy-Anderson Ranch

county as "L. A. Pratt," while the 1880 censuses list an "Edward L. Pratt" (Thompson and West 1878b:67, map; U.S. Bureau of the Census 1880c, 1880d). Pratt was born in Massachusetts and came to California in 1856, immediately settling in Solano County. Twenty years later his farm was well established. An illustration in the atlas depicts Pratt and his family at the stock farm. The architectural style and relative placement of the farm's buildings are clearly depicted (See Plate 8).

John Bird acquired the property by 1890 and deeded it to his son, Walter, about the turn of the century (Eager 1890, 1909). Walter Bird married Mary Ellen Sullivan, sister of his neighbor William Sullivan, about 1896. He worked his own land and helped with the farming of his father's adjacent acreage. When Bird eventually retired and moved to San Francisco, he sold the farm to Clarence Anderson. The title more recently has been held by Title Insurance and Trust (PG&E 1978), and the property is being used as a rental.

The Pratt farm complex consisted of a one-story vernacular farmhouse set in a young grove of eucalyptus and other trees, a large barn, and several smaller structures. A picket fence enclosed the complex and lined the driveway. Aerial photographs taken March 13, 1980, reveal that the configuration of the structures as Pratt knew them over 100 years ago remain virtually unaltered. Most significantly, the large barn illustrated in the historical atlas appears much the same today, with only minor changes (for example, a shed has been added to the south wall).

The existing residence appears to be quite different from that shown as Pratt's home. Historical analysis of the architecture suggests that the house was built circa 1890. This suggests the possibility that it was built, or significantly altered, during the Bird family's ownership. Most of the oral

PLATE 8

THE EDWARD PRATT/WALTER BIRD RANCH

This ranch complex dates from the 1860's. The large barn in the center of the photograph (nearest the house) appears in an illustration in the 1878 Thompson and West historical atlas. Other ranch features, such as water towers, outbuildings and roads, and possibly a portion of the existing home, are much the same as they appeared in the Thompson and West illustration. Edward Pratt operated the ranch at least as early as 1878, probably having purchased it from John Farrell. John Bird and his son, Walter, had begun operating the ranch by 1890.

(TCR-M 1+2/24[7]:3/13/80)



Plate 8  
The Edward Pratt/Walter Bird Ranch

history data collected on the house and other structures applies to a period between 1910 and 1930. The interior of the house had plastered walls and bedrooms were on the south side of the house. Carbide gas lamps provided light, and a carbide "machine" was located to the rear of the house.

A woodshed which stands behind the house was used by Walter Bird for storing firewood. During the winter months, he kept his crew working by cutting gum trees. Two water towers served the ranch. A tank close to the woodshed supplied water to the house; one close to the east barn served the rear portion of the ranch. The water for both tanks was drawn from the same well.

Two garages stand on the property. The garage opposite the house is a fairly recent addition, while the one near the rear water tower is older. Walter Bird did not drive, and one consultant believed that this garage may have been added after his daughter, Emily, began to drive (approximately 1918 to 1925).

Bird housed his workers in a bunkhouse which stood in the area between the older garage and the rear water tower. This bunkhouse is no longer standing. One consultant, who had worked for Walter Bird, suggested that the bunkhouse may have been "the old house" before Bird built the newer home.

The east barn, as mentioned earlier, dates from the Pratts' occupation of the ranch, circa 1877. Walter Bird used this barn for his dray horses. A horse corral was located south of the driveway east of the barn. This corral is no longer distinguishable and the area has been divided for other uses. Behind this barn, toward the slough, stands a newer barn, built about 1915 to 1920. Sam Esperson and his half-brother built the barn for Walter Bird, who used it primarily for sheep and other stock. Several smaller buildings, such as sheds and chicken houses, complete the farm complex.

The condition of most of these structures has deteriorated to some extent. Privy locations and trash sites have been disturbed by local bottle collectors and some materials have been removed.

Due west of the Pratt/Bird complex was John Smith's land. During the late 1860's, John C. Smith established a ranch in the Montezuma township (U.S. Bureau of the Census 1870d). Smith was a retired farmer who had emigrated from Germany with his wife, Mary (U.S. Bureau of the Census 1880d). Their farm included 80 acres of swamp and overflow land and approximately 180 acres of the low farmland between Collinsville Road and Montezuma Slough. This farm site is located between the rail corridor and Collinsville Road. Although it is on a section of land not within the study area, it is discussed in this inventory because of its proximity to the Pratt/Bird ranch.

The 1878 historical atlas of Solano County illustrates the Smith farm in relationship to the neighboring Pratt farm, depicting a complex of four buildings within a fenced enclosure and one additional structure at a distance from the main building cluster (Thompson and West 1878b). None of these buildings remain standing; however, archaeological survey of the area disclosed the existence of historical material on the farm site.

The Smiths retained the property until about 1909 to 1915 when it was acquired by George Shea. During the early part of this century the house was rented by various families who worked on area farms, such as the Jenkins and the Hallorans.

Location 33H. A two-story farmhouse and barn once nestled against the hills in Clank Hollow where today a planting of eucalyptus and a collapsed barn remain. According to a U.S. National Archives map (1873), the property once belonged to John Bird. Moses Dinkelspiel and Jacob Frank owned the property from the 1870's to the 1890's (Eager 1890; Thompson and

West 1878b:map). Mrs. Lena Dinkelspiel inherited the property after 1900, and rented homes on the land to various families (Eager 1909, 1915; TCR Field Data). During the 1910's, the property and warehouse were owned by Ed Dinkelspiel, an absentee owner who lived in Suisun (TCR Field Data).

The John Riemenschneider family rented the farm during the early part of this century. Snyder--as the head of the family was informally known--was born in New York to German parents. He moved to California prior to the 1880 census (Appendix B), which lists him as a single farm laborer who was boarding with James Blyth, a Birds Landing farmer (U.S. Bureau of the Census 1880d). Snyder married Berdina Tonneson, daughter of a Norwegian immigrant who owned a farm in "Little Norway," an area northeast of Birds Landing. The Snyders farmed land leased from Dinkelspiel as well as an acreage inherited from the Tonneson estate (Eager 1915; TCR Field Data). During the early 1920's, Snyder had a falling out with Dinkelspiel and moved his family to Birds Landing.

James Halloran and his wife rented the house when the Snyders moved. Halloran was a hard-working Irishman who at that time was employed by the Taylor Ranch north of Birds Landing. His wife, Lou, worked as a housekeeper for the Andersons, Millers, and other Collinsville Road families.

More recently, a mobile home has been placed on the site by the owners of the property, the C. R. Hale family. Although their ownership of this property is relatively recent, it should be noted that the Hale family has long-standing ties with the farming community of the Birds Landing area.

### Birds Landing

The town of Birds Landing was built at a crossroads near the confluence of two small creeks which drain the Montezuma Hills. The town's location was chosen in large part due to favorable environmental factors: the site had permanent fresh water sources adequate for a community, yet was situated on dry ground not subject to the tidal inundations characteristic of land near the Montezuma Slough. Few locations in the Montezuma Hills could fulfill these conditions. The location met economic and social requisites as well. It was situated at the juncture of two roads which linked the scattered agricultural community to the commercial and social services available in Collinsville, Suisun and Rio Vista, and to the transportation and shipping corridor of the Sacramento River (see Plate 9).

The community took its name from a locally prominent landowner and rancher, John Bird, who was born in New York in 1837, the son of an English immigrant. He sailed to California in 1859, along with George Eustis. After working in the building and mining trades, he went into the dairying business near Sacramento. In 1865, he bought 960 acres of land in Solano County and established a farm and dairy. Four years later he built a wharf and warehouse on the Montezuma Slough (Gregory 1912:427). Eustis also settled in the area temporarily, farming about 100 acres on Collinsville Road (U.S. National Archives 1873).

The size of Bird's holding fluctuated as he bought and sold various parcels of land. The 1870 agricultural census recorded that John Bird owned 640 acres of improved farm land and 198 acres of unimproved land with an estimated total value of \$10,000 (Appendix B). That year he reaped 1500 bushels of winter wheat and sizeable harvests of barley and hay. His livestock included 40 dairy cows, 10 other cattle and 20 swine. He estimated the total value of all farm productions at \$4000

PLATE 9

AERIAL VIEW OF BIRDS LANDING

The crossroads village of Birds Landing is seen in this plate. Benjamin's store is in the center of the photograph. Collinsville Road bisects the print left to right. Meins Landing Road enters from the top and becomes Birds Landing Road at the intersection. This view is to the west. The various historic features of this town are described in the Birds Landing resource region section of the text.

(TCR-M 1+2/-[-]:3/13/80)

(U.S. Bureau of the Census 1870d). With income from his farm and warehouse business, he built a substantial two-story home east of the crossroads. He was respected in his business dealings and became an active participant in the development of the region (Gregory 1912:427).

Other early property owners in the area included John Blythe, William Smith, and Thomas T. Hooper. William Smith farmed 160 acres of improved land and 40 acres of unimproved land, as reported on the 1870 agricultural census. He raised winter wheat and kept a minimum number of livestock (U.S. Bureau of Census 1870d). Smith also appears on a 1873 map of the area (U.S. National Archives 1873) but is not shown on later documents. Thomas Hooper settled in the area in 1850 and by 1877 was farming over 1000 acres. His ranch extended from the Montezuma Slough at Meins Landing to Collinsville Road (Thompson and West 1878b:67, map).

John Blythe, a Scot, came to California in 1853 and settled in Solano County in 1867. On the 1870 agricultural census he reported owning 480 acres of improved farm land valued at \$9600 (U.S. Bureau of the Census 1870d). A decade later, Blythe had acquired additional acreage and was raising grain crops and poultry (U.S. Bureau of the Census 1880c). Blythe's 323 acre parcel at Birds Landing was later divided roughly in half. John Bird purchased the land south of the county road and Frank Taylor bought the north part (Eager 1890).

Birds Landing developed into a rural village during the 1870's. About 1876, Jacob Frank and Moses Dinkelspiel established a store at the crossroads. They had purchased John Bird's warehouse and much of his acreage from Collinsville Road to Montezuma Slough. Local tradition says that Frank and Dinkelspiel envisioned the town as a "New Jerusalem," a community full of promise (TCR Field Data). A public elementary school was built a short distance north of the emerging com-

munity. John Bird was appointed postmaster and the town was officially named Birds Landing. Bird is also credited with having built the first blacksmith shop "this side of Suisun" (Gregory 1912:427; Shine 1976; Thompson and West 1878b:map; TCR Field Data).

The first lots were laid out in a pattern similar to that of northern European linear villages, with homes and businesses facing Collinsville Road. As the community grew in population and complexity, additional lots were surveyed and the town took on the appearance of a rural crossroads village (Jordan 1973:241-258). In 1899, E. A. Young, who had acquired the Hooper Ranch, deeded a lot north of the crossroads to the I.O.O.F. for a hall. By the turn of the century, Birds Landing also boasted two hotels, saloons, a butcher shop, and a dance hall. The community had become a major commercial and social center for the isolated farmsteads throughout the Montezuma Hills.

The historic resources of Birds Landing are described individually below. Some of the structures are no longer standing; others have undergone substantial modification. They are discussed in counterclockwise order, beginning with the store.

Birds Landing Store. It has been established that the store was constructed in 1876, and that the first owners were Jacob Frank and Moses Dinkelspiel. John Bird became a partner with Dinkelspiel a few years later and bought the store in 1880. Bird's elder brother, Henry, was associated with him in the store. Henry was a Civil War veteran who joined his brother's family in Birds Landing. Later (ca. 1890's) the store's proprietors were Bird and Smith. Early photographs and oral history interviews have produced suggestions that the Smith in Birds Landing was associated with the company which

produced Smith Brothers Cough Drops, although too little information is present to confirm or deny these suggestions.

Two of Bird's sons, John Jr. and Elmer, took over the store and managed it together until 1918, when Elmer moved east to promote a new tire company in which he held stock. John Jr. and his wife Mary ran the business until 1923, when they retired and sold the store to Chris Benjaminsen. At present, his widow, Evelyn Snyder Benjamin, continues to operate the business, although on a much smaller scale.

The store was a principal focus of the community. It supplied a wide selection of perishable groceries and staples, dry goods, and clothing. It handled hardware and farm materials, such as fence posts and barbed wire. Because of the distance from regular pharmacies, the store was also able to carry prescription drugs. San Francisco suppliers shipped their goods by schooner and unloaded at the Collinsville wharf or Birds Landing warehouse. Merchandise was then delivered to the store by wagon. The nature of the goods and the delivery schedules necessitated the building of a storage facility, which was constructed across the street from the store. Merchandise was also kept in the store's basement and upper floor (see Plates 10 and 11 for an early and recent view of the store).

The Birds Landing post office was set up in the front corner of the store and operated there for 91 years. The postmaster's position was held by a member of the Bird family for over 45 years. The first postmaster, John Bird, was succeeded in turn by his sons Elmer and John Jr., then John's wife, Mary, who held the position until 1923. When she retired, Mary recommended Evelyn Benjamin for the job, a position she held until 1967. At that time, the post office was moved to a small shed on an adjacent lot.

PLATES 10 and 11

BIRDS LANDING STORE, ca. 1910 and 1980

The Birds Landing Store has been in continuous operation since its establishment in 1876. Plate 10 depicts the store when it was operated by Elmer and John Bird, Jr. In 1923 Chris and Evelyn Benjamin purchased the store. Mrs. Benjamin, shown in Plate 11, also managed the post office when it was located in the store.

(Photo courtesy of Mr. Mel Paoline)

The two upper story windows with classic hoods are original. The wood siding and grillwork vents are also original. The simulated brick over the upper front facade was added after the Bird tenancy.

(TCR-M 1+2/29[6]:3/14/80)

aerial view of birds landing (1190x905x256 tiff)



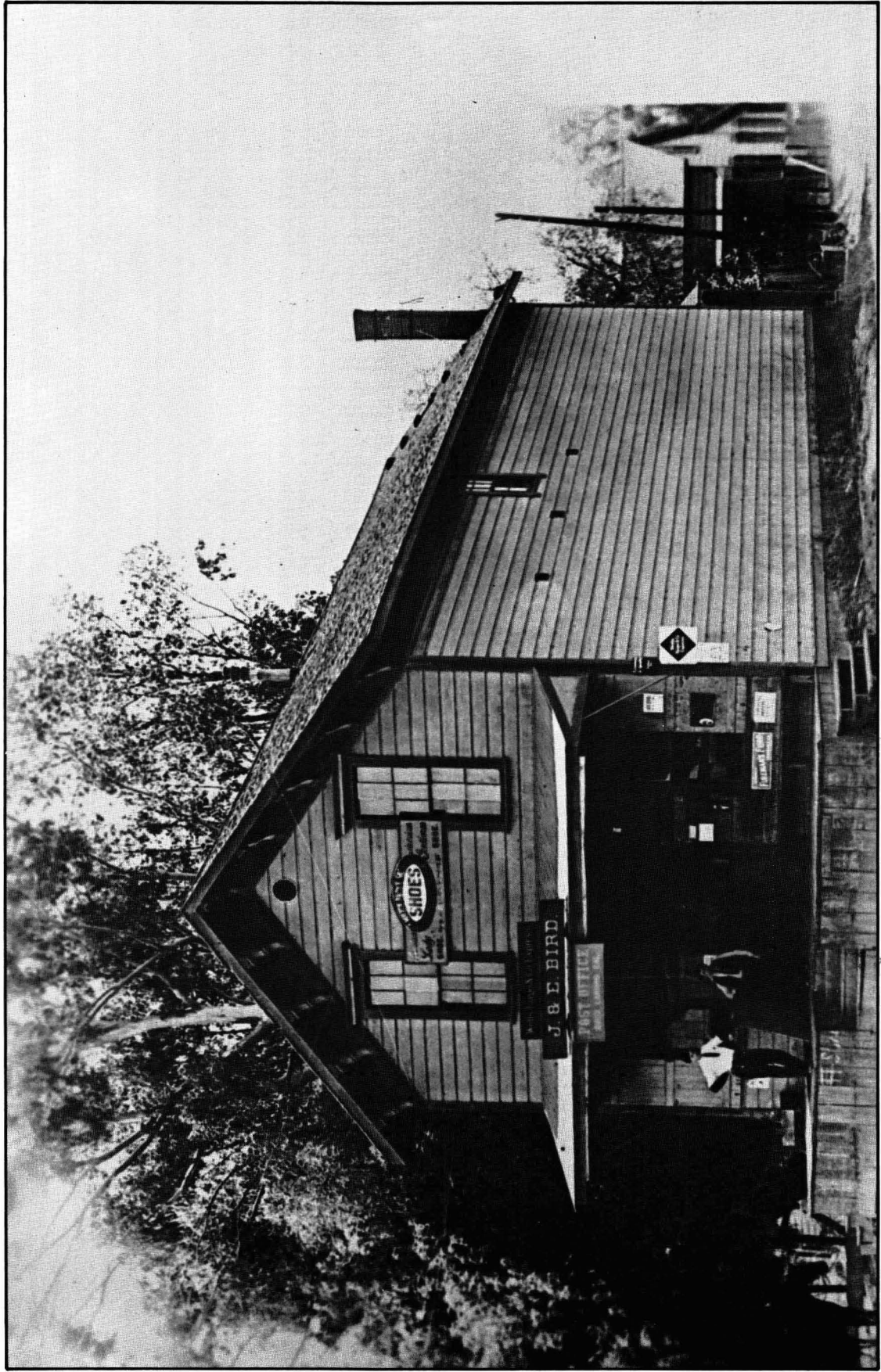


Plate 10  
Birds Landing Store, ca. 1910

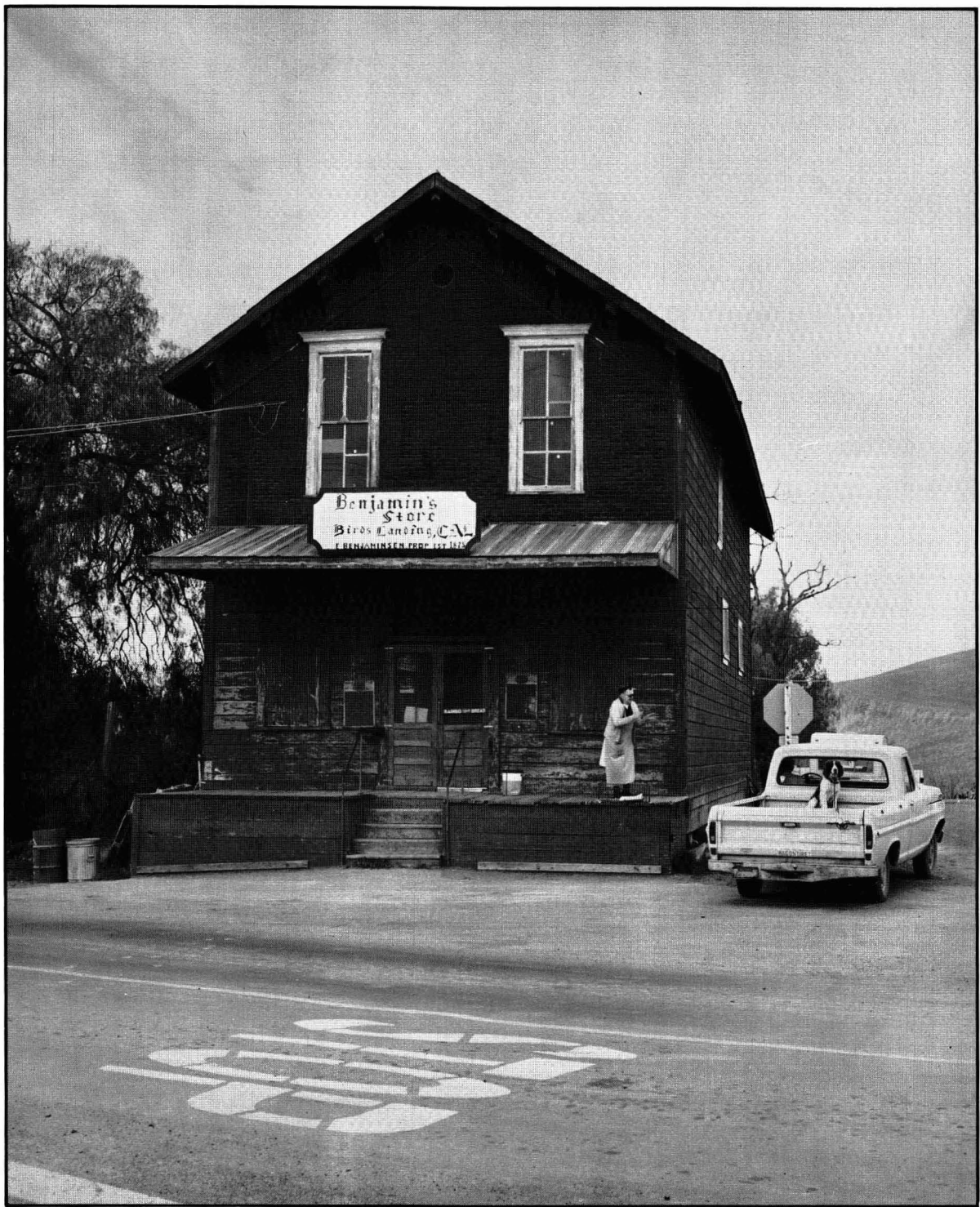


Plate 11  
Birds Landing Store, ca. 1980

Mail was delivered to the store via river steamer which stopped at Collinsville. Later, an overland mail route ran from Suisun to Rio Vista with a stop at Denverton. Mail for Birds Landing was picked up in Denverton and delivered to the store for distribution.

The post office became a general meeting place. "Generally the men came into the post office to sit and talk and have a beer at the saloon when they got the mail" (TCR Field Data). The broad porch of the store was well suited to such social happenings. The store was also the location of other informal gatherings. In the late 1800's, it was common for the men to have a social drink in the back room in the afternoons. The floor of the store served at various times as a meeting room or town hall. During the depression, workers hired by the cattle company in Collinsville slept upstairs. One consultant summed up her memories of Bird's store during the 1910's:

At Bird's store you could almost buy any need: food, chicken feed, sewing equipment including cloth by the yard, needles, soap, toothbrushes, cookies in the jars by the dozen, candy sticks and licorice, saddle for the horse, Watkin's Linament. Everyone stopped for the daily mail, for the post office was in the corner by the front door with wrought iron cage. Bird's store was a place full of wonder and delight, where all the people around sat on the front porch exchanging the news of the day. Yes, I remember with great delight and love [TCR Field Data].

The store building itself is architecturally interesting as an example of Italianate channel rustic style. Two second story double-hung sash windows with classic hoods, and the first floor store front, remain original. The covered stairway at the rear of the building and the grillwork air vents on the sides are also original. Imitation-brick asbestos siding covers the second story front facade and two first floor windows have been added on the north facade. The front porch has also been rebuilt. The interior of the building has suffered

some deterioration. Many of the original fixtures have been removed. The ceiling has sustained water damage, and the wooden floor shows wear.

Yolo House. This two-story home was built about 1880. Nothing is known of its builder or first occupants, but by the early 1900's Edward Krause had acquired the property. Krause and his wife were upper-class Prussian immigrants. He commuted to work as a blacksmith at Baker and Hamilton in Benicia and was known locally as an inventor of farm machinery. Krause rented the house to Victor Yolo, a Swiss-Italian who operated a meat market in Birds Landing. Emery Yolo purchased the property from Martha Krause Blackwelder in 1922 (Solano County Recorder, Books of Grantors 1850-1940) and lived there with his wife and brother.

The house was built in a popular architectural style of its time, a vernacular Italianate cottage with a cross-gable roof and front veranda. Originally it may have featured a second-story balustrade, which has been replaced with a shed roof over the porch. The original wooden siding has been covered with asbestos shingles.

There was a second structure on the lot in front of the house. This was a two-room one-story building which has been variously described by consultants as a dance hall or roller rink. About 1927, Emery Yolo converted it into a butcher shop and rented out space for a barber shop. The ceiling was of tongue and groove boards, and the exterior walls were filled with sawdust. Meat was kept cool with 300-pound blocks of ice and later by a mechanical refrigeration unit.

The butcher shop served the town of Birds Landing and many of the outlying farms. Emery Yolo also delivered meat to Collinsville and operated a small store there two or three days per week. Yolo described his first delivery wagon as similar

to a prairie wagon, with curved ribs and canvas covering. With the advent of World War II and the shortage of meat that it brought, Yolo's business declined. He closed the butcher shop and sold the building to a dismantler who removed the structure. In 1940, Yolo sold the house and land to the Banegas family (Solano County Recorder, Books of Grantors 1850-1940), then worked for a year at Fontana Farms near Collinsville before moving to Fairfield. The house in Birds Landing has been maintained as a residence and is occupied at present.

Larson House. The chronology of this historic location is vague. One of the earliest uses of this site, according to TCR consultants, was as a hotel. During its peak years, Birds Landing boasted two hotels, one on either side of Collinsville Road. One of these was owned and operated by the Winegartners, relatives of the Krause family. Because of this relationship, and the fact that the Krauses owned three adjacent lots west of Collinsville Road, it is assumed that the Winegartners operated the hotel said to have been located where the Larson house later stood. The Winegartners moved to the Bay Area sometime after 1902.

By the turn of the century, a residence had been established. One of the first known occupants was thought to be the Halloran family. Later Edward and Henrietta Krause moved into the home which they occupied until about 1918. In 1923, the property was sold to Albert and Lena Larson. Larson worked at his brother's blacksmith shop in Birds Landing, and later, during the 1930's, for Fontana Farms. The Larsons later moved away from Birds Landing.

The original building has been substantially rebuilt. Consultants provided information that the basic structural framework was retained during extensive remodeling which converted the older wooden house into a more modern stucco building.

Blackwelder House. This house, built in the 1870's, is among the oldest standing structures in Birds Landing. Edward Krause raised his family in this home during the 1880's and 1890's. It is one of three adjacent homes owned by Krause, whose daughter Martha, in 1902, married Bert Blackwelder, a blacksmith who had worked with Krause in Benicia. Blackwelder purchased the blacksmith shop in Birds Landing that year and began raising a family in the Krause's house. The Blackwelders occupied the home until 1918, when Blackwelder moved east to take a position with an Indiana tire manufacturer. In 1923, the house was sold to I. W. Miller, son of a German-born brewer, who had moved to Birds Landing in 1916 and operated Dinkelspiel's warehouse (Solano County Recorder, Books of Grantors 1850-1940).

The Blackwelder house is a simple one-story channel rustic sided vernacular building with a gable-end roof and single bracketed eaves. The east and south verandas are supported by four square posts. A number of alterations to the original structure have been made. In 1918, when the Millers first moved into the house, they added a toilet on the back porch. The home already had a bathtub, but no indoor plumbing. Modifications to the home have been made throughout the years and include asbestos roofing, an enlarged front window, and board and batten siding on the north facade. The home, owned until recently by Miller's granddaughter, Modine Snyder Delgado, fell into disrepair. Current owners, however, are repairing structural elements which have deteriorated during a century of continuous occupancy.

Across the creek from the Blackwelder's house, on the west side of Collinsville Road, lived Shorty Long, the town barber. Long was a colorful personality who had once been a jockey. He never married, and lived alone on the fringes of town. His

home was remembered as a "shack" about the size of a garage. After Shorty Long, the structure was occupied by another single gentleman, Jack Sullivan (Solano County Historical Society 1961). Sullivan was remembered as being fond of publicly expounding his views on any given subject (TCR Field Data). Sullivan had no known family. The 1900 population census lists a John M. Sullivan as a widower, aged 40 years; however, it is not now possible to determine whether or not this John Sullivan is, in fact, the same person as Jack Sullivan of Birds Landing (U.S. Bureau of the Census 1900).

Snyder House. This building dates from the earliest period of Birds Landing. Virtually nothing is known of its first inhabitants. During the early 1900's, the house was occupied by Mrs. Milliken, a widowed Scottish woman who was supported, in part, by her sons who worked on neighboring ranches. Mrs. Milliken also did domestic work for Birds Landing families.

About 1919, John Riemenschnieder moved his family into the house. Snyder, as he was informally known, was married to Berdina Tonneson, and was building a home on their farm northeast of town. While construction was in progress, the Snyders lived in the house in Birds Landing. The home originally had four rooms, but was enlarged about 1926, when Snyder's son, Ed, married Katherine Miller, and the young couple moved into the home. The Ed Snyders' lived in the house for over 40 years.

The house is a vernacular cottage with sloping gable-end roof which extends over the front porch. The original screened porch has since been enclosed. The house was built with a raised basement abutting the bank near the road, which enabled the building to take full advantage of the sloping lot. Ed Snyder added four rooms to the street level. The windows on the street level of the north facade have been altered, but at

the basement level the six-over-six windows appear to be original. Asbestos siding now covers the original wooden exterior.

Montezuma Meat Market. A Chinese laundry stood on this lot in the late 1800's. During the 1870's, "owning and operating laundries became one of the easiest ways to economic self-sufficiency" for the Chinese immigrants (Chinn 1969:63). Some Chinese were finding work reclaiming tule lands in the Delta. A number of Chinese work gangs were hired by Dutton to build levees or embankments on Grizzly Island (Frost n.d.). Chinese were also finding work as domestic servants. Outside of San Francisco's Chinatown, it was a status symbol for a Chinese to work for a prosperous Caucasian. These cooks and servants were generally well paid and were in demand from the 1860's through the early 20th century (Chinn 1969:64). Several of the large ranches in the Montezuma Hills area, including the Taylor ranch north of Birds Landing, employed Chinese cooks or house servants (TCR Field Data). The Chinese were gone from Birds Landing before 1900, although TCR consultants remembered finding Chinese coins long afterwards.

The "wash-house" had been converted to a meat market before 1909, when Victor Yolo and his children moved to Birds Landing from Grizzly Island, where Yolo had been a buyer for a wholesale livestock company. He bought out Joe Robinson's butcher shop in Birds Landing and began the Montezuma Meat Market. Photographs of the meat market show a two-story building with a wooden porch along the front facade. The porch roof featured a trap door through which ice blocks were raised to baffles inside the walk-in cold box. Two bedrooms were located on the north part of the upper floor. A low shed attached to the north facing was made of rough planks, with a single small window on the west facade. Its construction suggests an earlier, separate origin from the main building. Consultants indicated that this shed had been used as the Chinese laundry facility.

Victor Yolo operated the meat market with his sons Romero and Emery until his death in 1914. His sons continued the business in the same location until about 1927, when a fire swept through town and burned the Montezuma Meat Market building. Emery bought his brother's share of the business and moved the shop to a building across the street. A few years later, he built a three-car garage on the site of the former market. About 1936, this structure also burned. The lot is now occupied by a modest house which has been moved onto the site.

Union Hotel. This inn was situated north of the Chinese laundry on the east side of Collinsville Road. Photographs of the hotel depict a two-story Italianate channel rustic sided building with cross gable roof and front facade veranda. The second story featured a balustrade along the full width of the front facade. Hitching racks with water troughs stood north of the hotel. The street floor had a dining room and saloon; the raised basement housed the kitchen; hotel rooms were upstairs.

The Birds Landing hotel business primarily served seasonal farm workers and single men. There was little tourist trade, although some hunters and fishermen did visit the area. Jerry Buissiere operated the hotel around the turn of the century, then sold it to Julius Dodini, a Swiss Italian from Grizzly Island. Dodini owned it for a few years, then sold it before moving to Dixon in 1907. Dante Yolo, another Swiss Italian from Grizzly Island, bought the hotel and operated it until it was destroyed in a fire (ca. 1920's) which also burned the butcher shop next door. A small residence has lately been moved onto the lot.

Warehouse. Associated with the Birds Landing store was a warehouse situated on a triangular lot at the southeast corner of the crossroads, facing the store. This was a large wooden structure which could accommodate bulky items such as fence

posts and rolls of barbed wire, as well as other farm materials and domestic goods. These wares were shipped to Collinsville or to the Birds Landing warehouse on Montezuma Slough, then transported by wagon or truck to the store. The warehouse was destroyed in one of the devastating fires which swept through town during the 1920's and 1930's. The property is still associated with the store; a metal storage shed has replaced the older warehouse. The store's owner, Evelyn Benjamin, also operates a single-pump Standard gas station on that corner.

Blacksmith Shop. Blacksmithing was an important service for the farmers in the Montezuma Hills. John Bird is credited with having opened the first blacksmith shop in the area in 1871 (Gregory 1912:427). By 1900, the blacksmith shop in Birds Landing was being operated by Bill Kennedy. In 1902 he sold the shop to Bert Blackwelder who developed a thriving business manufacturing and repairing farm equipment. Blackwelder and his father-in-law, Edward Krause, invented machinery specially suited to farming the steep hills. The Montezuma Cultivator was one of these innovations; it proved so successful in tilling the heavy clay soils that old timers in the area have used it up to the present. Blackwelder later established the Blackwelder Manufacturing Company in Rio Vista, a firm which is responsible for many innovations in harvesting equipment and continues to be a leader in agricultural technology (see Plate 12).

In 1918, Blackwelder sold the blacksmith shop in Birds Landing to Frank Larson, one of his employees. Frank Larson was from a Norwegian family that had settled in the hills north of town, an area local historian Wood Young calls "Little Norway," due to the cluster of settlers from that country (TCR Field Data). Larson married Lily Yolo, daughter of the town's butcher. Larson ran the blacksmith shop until the 1930's, when the building was consumed by a fire which destroyed several other structures along the east side of Collinsville Road.

## PLATE 12

### THE BLACKWELDER BLACKSMITH SHOP, ca. 1917

Blacksmithing was an important service for the farmers in the Montezuma Hills. The blacksmith shop located at the southeast corner of the crossroads, was both an economic and social focal point in Birds Landing. Bill Kennedy was the town blacksmith until 1902. Bert Blackwelder then operated the thriving business, manufacturing and repairing farm equipment. In 1918, Blackwelder sold the business to Frank Larson, who operated the shop until it was destroyed by a devastating fire which swept through town in the 1930's. This view of the shop entrance is to the southeast. The house in the background is currently the home of Mrs. Benjamin. (Photo courtesy of Mr. Mel Paolini)

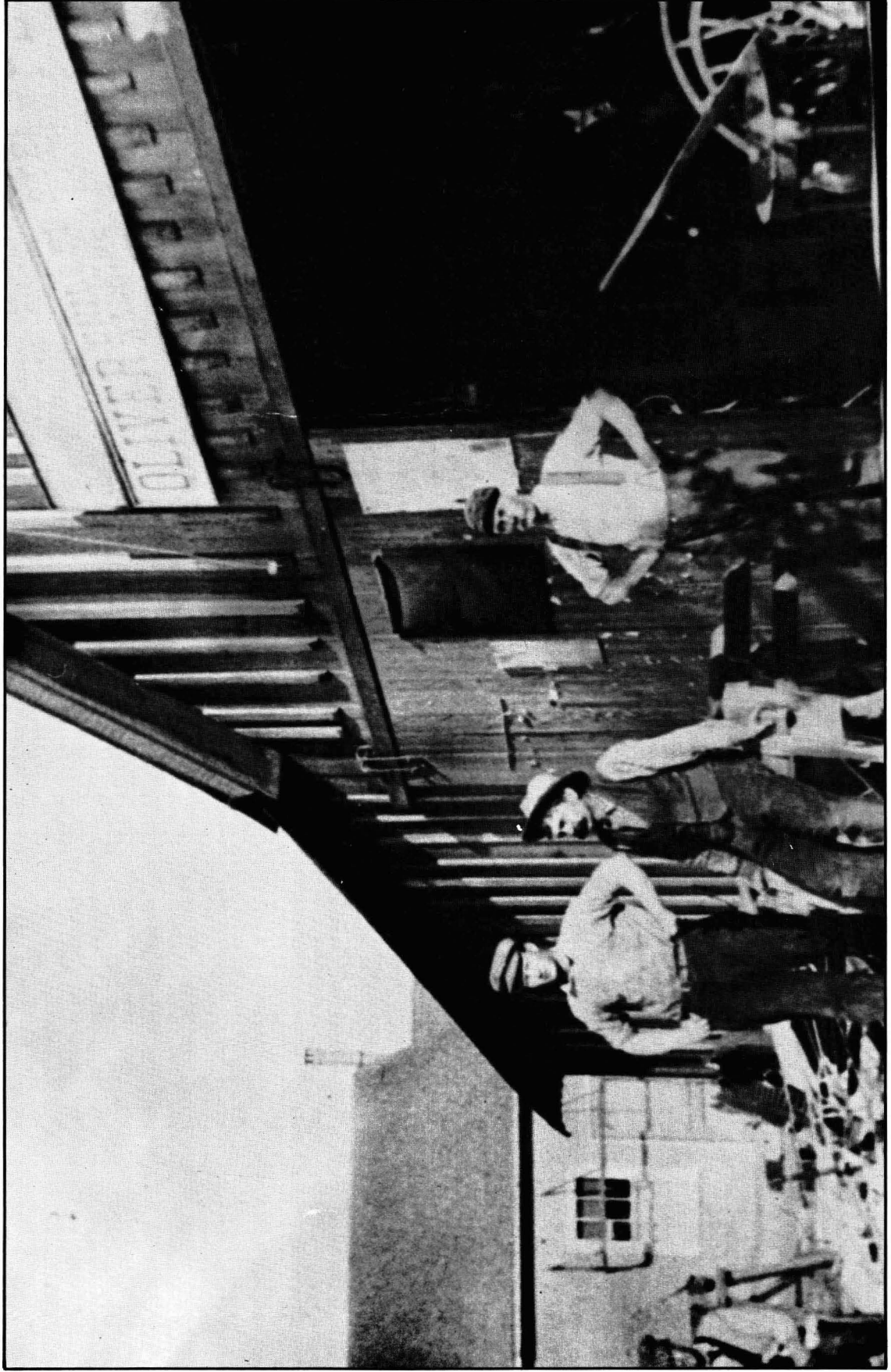


Plate 12  
The Blackwelder Blacksmith Shop, ca. 1917

The blacksmith shop was one of the social hubs in town. While men waited to have horses shod or machinery repaired, they often visited and exchanged news. Blackwelder was fond of inviting his customers home for lunch, and consultants remembered the convivial atmosphere associated with the shop.

The shop was housed in a large barn-like structure built of vertical board-and-batten siding. It had a pitched roof and a shed on the east side. The shop faced Birds Landing Road, a smaller shoeing shop stood near the southeast corner of the building, and hitching racks were located outside the western wall of the shop. Inside the blacksmith shop was a large forge which stood on the right as one entered. On the left, just inside the double doors, were racks for iron pieces. Past the racks inside the shed was a one-cylinder gasoline engine with flywheels used to run the machinery. Other equipment included tire shrinkers (used for repairing the metal tires on wooden wagon wheels), as well as the Montezuma Cultivators.

Benjamin's House. Mrs. Benjamin's house is one of the best preserved structures in Birds Landing. It has been occupied continuously since it was built in the late 1800's, and has enjoyed regular maintenance over the years.

During the 1870's, the land was part of John Blythe's farm (Thompson and West 1878b:map). John Bird purchased the land before 1890 (Eager 1890), and may have been responsible for the building of this home. Nothing is known of its first occupants, but several different families lived in the house after 1900.

The Yolo family lived in the home after they moved to town in 1909. Dick Bacon and his wife resided there when they were first married. Jim and Lu Halloran rented it until Frank and Lily Larson moved in. The Larsons enlarged the house about 1928, adding a dining room, and Lily ran a boarding house,

serving meals to the cattle company employees who were living in town. The Larsons remained in Birds Landing until the late 1930's. After Frank's blacksmith shop burned, he found work at the cattle company for a while, but eventually left the area.

Chris Benjaminsen and his wife purchased the house after the Larsons. Benjaminsen was a Norwegian immigrant who had been working in the Birds Landing area for various businesses and farmers. He purchased the general store from John Bird Jr., in 1923. He married Evelyn Snyder, and they raised one son, who presently lives on the Snyder farm east of town. Benjaminsen died in 1963, but his widow continues to live in the same house and to operate the store.

The house is a one-story building with an asymmetrical L-shaped floor plan and gable-end roofs. The original yellow wooden siding was covered with asbestos siding about 20 years ago. The siding was originally a redwood tone, which has since faded to a soft pink. A porch and front entry face west, toward the store. A solitary palm tree stands between the house and the creek.

Bar. North of Birds Landing Road, and east of Collinsville Road, stood a saloon and livery. Its earliest known proprietor was Jerry Buissiere, who operated the saloon in the early 1900's. About 1910, Buissiere sold the saloon to Pete Leutholtz, who continued to operate it until the building burned in a fire. Prohibition was passed in 1920, and the building was not rebuilt until the amendment was repealed in 1933. The livery apparently burned in the same fire and was not rebuilt.

This first saloon faced Collinsville Road. It was basically a square channel rustic sided building with verandas on the south and west facades. A pitched roof was faced by a false front with decorative brackets. Double doors opened on

the south and west sides; windows had six-over-six panes. The livery stable stood to the east of the saloon facing Birds Landing Road. This was an unpainted structure with a low pitched roof and three large open doorways to accommodate wagons.

After the 21st Amendment was passed, Leutholtz hired Louis Dadami to build a new saloon, which became known as the Birds Landing Club. This club was built in approximately the same location as the first building, but faced Birds Landing Road. It was operated by Leutholtz' niece, Gladys Christisen, and her husband. Leutholtz sold the property to Joe Paolini about 1947, and Paolini's son, Mel, continues to operate the bar on a limited basis.

The present structure is a one-story, raised basement, vernacular building with channel rustic siding. A shed roof sheltering the front veranda is supported by six columns. The front facade doors and windows appear altered, and the west facade has a small shed addition.

Buissierre/Leutholtz House. North of the bar is a late 19th century cottage, which occupies the same property as the saloon. About the turn of the century, it was the residence of Jerry and Mamie Buissiere, who operated the saloon. Mamie was the sister of the Halloran brothers, who frequented the Buissiere home. The house was sold, with the bar, to Pete Leutholtz about 1910, when the Buissieres moved to Collinsville and later to Rio Vista, where Buissiere operated a livery stable. Leutholtz lived in the house for several years, then moved to a farm on Montezuma Hills Road. He retained ownership of the property for about 30 years, renting it to various families, including the Bacons, Benjamins and Christisens. When the property was sold in the 1940's, Joe Paolini moved into the house. After his death, the house stood vacant, and has remained unoccupied to the present.

The house is a one-story eclectic building with a cross gable roof and front entrance porch with shed roof. The western facade is surmounted by a jerkin-head gable. The front entrance columns bear decorative Gothic bracketing, and half-timbering embellishes the front facade extension on the north. A rear shed has been added to the north facing. Two garages (one metal and one board-and-batten) and a tankhouse stand north of the house. The tankhouse was originally open, but was enclosed sometime after 1910. Chicken houses used to stand in the yard. The interior was extensively remodeled during the 1920's; however, the structure has deteriorated during the past 30 years.

Willow Spring School. The Willow Spring School was established in Birds Landing early in that town's history. It appears on historic maps as early as 1877 (Thompson and West 1878b:map). According to oral tradition, John Bird was responsible for naming the school. His daughter-in-law, Mary Burton Bird, taught there.

The school was situated about 100 yards north of the cross-roads on the west side of Collinsville Road. The schoolhouse was built at the southern perimeter of a eucalyptus grove on farm land donated for the school's use. The original Willow Spring School was a one-story vernacular channel rustic sided rectangular building which faced east. It had covered verandas on the east and south facades and featured six-over-six windows. The interior consisted of a single classroom with a cloakroom near the entrance. A wood heater was located at the front of the classroom near the teacher's desk.

A water pump stood near the southwest corner of the building. Children who traveled to school with a horse and cart turned their horses loose in the schoolyard and put their buggies in the shed south of the schoolhouse. Separate boys' and girls' privies were located north of the building. (The

privies have been located and excavated by a local bottle collector who found ink bottles and the like.)

The original school building was used until about 1920, when it was dismantled and the lumber reused for a home. The land north of the crossroads then reverted back to farming. A second school was built on a knoll south of town. The Birds Landing community became involved with the planting of trees and other landscaping chores on the school grounds and used the schoolyard for I.O.O.F. baseball games and other activities. This second Willow Spring School was a small one-room wooden structure which housed the eight grades taught by Charlotte Bacon. It was later sold to John Ward, who hired Anderson to move the building by tractor to its present location at Mein's Landing, where he adapted the structure for residential use.

A larger school was needed and a third, stucco school complex was built on the knoll south of Birds Landing. It has since been closed due to declining enrollment and increased operating costs.

I.O.O.F. Hall. The Odd Fellows Hall in Birds Landing was built on land deeded to the fraternal organization in 1899, by E. A. Young. The price for the lot 75 feet north of the crossroads was ten dollars in gold. The Odd Fellows had established a lodge in Birds Landing in the late 1800's, and were a major institution in the area for three generations. Before their hall was built, the upper floor of the store served as a meeting room or temporary lodge for the organization.

In some respects, the I.O.O.F. was more important to the community than were religious organizations. Church participation was occasional or intermittent for many of the residents of Birds Landing and the surrounding hills partially because the community did not support a full-time resident minister for Shiloh Church or the churches at Collinsville. Saturday night

lodge meetings, however, drew regular attendance. The evening meetings drew men from Collinsville, Birds Landing, Grizzly Island, and from the numerous farmsteads scattered throughout the Montezuma Hills. The I.O.O.F. provided a common social denominator for the townspeople and the greater agricultural community.

The two major social events of the year took place at the I.O.O.F. hall. Both were widely supported and drew participants from other Delta and Bay Area communities. In April the Odd Fellows had a memorial or anniversary day, and sponsored a grand ball which was remembered as "the affair of the year." Musicians were brought in from San Francisco. Dancing took place downstairs, while upstairs a banquet dinner was served on plates donated by John Bird. Foods (such as turkeys, chickens, salads) were prepared in advance and served cold, since there were no facilities for refrigeration. Two hundred to three hundred people attended. There was a nominal admission charge and the proceeds were used for lodge activities. One year, for example, the funds raised bought uniforms for the Birds Landing baseball team.

In the late summer or fall, the Rebekkah Lodge (the women's auxiliary of the I.O.O.F.) hosted the annual Strawberry Festival which included a grand pot-luck supper and dance. The festival was renowned for the fantastic strawberry and whipped cream cakes served. Advance preparations were elaborate: the hall was decorated and copious quantities of edibles were prepared. Families attended in their finest clothes. One consultant who had attended as a child remembered:

The "Strawberry Festival" was the event of the year when the women sewed for days to make dresses and shirts for each member of the family to wear at this special time. Dancing, fun and tables heaped with food. I remember during intermission time, running and dancing, playing on the floor. Going to sleep on the side benches. Wonderful times for folks near and far. I can't remember drinking or

rough troublesome happenings, just fun and laughter. Everyone was there. Fancy dresses and hair bows, high button shoes [TCR Field Data].

The Odd Fellows hall was the setting for other community events, such as the traveling medicine shows, which came once or twice a year to Birds Landing. Chautauqua players also staged their shows at the hall, and for a time, religious services were also held there.

The hall was known for its good dance floor, which was built on pilings cushioned by eight-inch blocks of rubber. This allowed the floor to give a little or "float." A stage with steps at either side ran the width of the building. As one entered the hall there were cloakrooms on either side. Each had a toilet and wash basin and a place to hang coats. Around the first floor were seats, that is, benches with backs. A curved or angled stairway led upstairs. The stairs were about six or eight feet wide. Upstairs were a large kitchen, a meeting room, and smaller storage rooms for lodge regalia. The interior was paneled with tongue and groove wainscoating, and a carbide plant behind the hall powered the chandeliers inside. Later these fixtures were converted to electricity. A gas heater warmed the building.

The hall was an Italianate building with a gable-end roof and decorative eave brackets. The front facade featured windows with colored panes: two flanked the entrance, three more graced the upper story.

As membership in the Odd Fellows Lodge in Birds Landing declined in the 1930's and 1940's, dances were discontinued and the lodge membership merged with the lodge in Suisun. Consultants attributed this decline to the improved transportation and communication networks which linked Birds Landing with other communities. The isolated conditions which contributed to the growth of the organization had diminished. Eventually the

building was sold and dismantled. No evidence of the bustling activities that once took place there are visible today. A salvage yard now covers the lot.

Bird/Bacon House. This home was built about 1875 and through much of its existence has been associated with the store which stands adjacent to it. Until 1923, the house was generally occupied by the various store proprietors: Dinkelspiel, Smith, and Bird. (One exception to this rule occurred about 1912 to 1914, when John Halloran and his wife lived in the house.) John and Mary Bird sold the store to Chris Benjaminsen in 1923, and he in turn sold the house to Dick Bacon. The Bacons lived in the home while Dick was operating his garage across the street. Bacon died young, and his daughter, who inherited the property, retains an absentee ownership to this day.

During the 1930's, George and Genevieve Day rented the house while he worked as a foreman for Fontana Farms. Later, the house and the garage property across the street were rented to Mel and Shirley Paolini, who reside in the home at present.

The house is situated on a large L-shaped lot which extends to Collinsville Road immediately south of the store, including a long pasture which runs behind the other three lots south of the house. This is the largest parcel in Birds Landing. The house is a two-story channel rustic vernacular adaptation of a New England salt box. An early front shed addition appears to have replaced an original veranda. A second shed has been added to the rear of the original house. Original six-over-six windows attest to the antiquity of the structure.

Bacon Garage. The northwest corner of the intersection has remained commercial in character throughout the past sixty or more years. No information has been found regarding this location for the period up to the early 1900's. Consultants did

not identify any buildings or other activities at this location until the construction of a garage in the early 1920's, when Dick Bacon built an auto repair shop and a Shell gas station on the corner. The garage was a corrugated metal building with two large swinging doors. It could accommodate three or four cars at a time. Bacon repaired Model T and Model A Fords and performed other general repairs. A single gas pump stood in front of the garage. Today a surplus yard obscures any evidence of the garage and station.

Dick Bacon was one of two sons of a Civil War veteran who had established a farm on Shiloh Road, north of Birds Landing. Bacon worked for the Montezuma Meat Market in the 1910's. In addition to operating the garage, he drove the White school bus which transported children to the high school in Rio Vista. After the garage closed, he drove the mail stage which operated between Denverton and Collinsville. His wife, Charlotte, taught school in Birds Landing.

Jail. On the north side of Mein's Landing Road, just west of the bridge, stood a one-room jail. This was a small building, approximately ten-feet square, with a peaked roof. The windows were barred and the door locked with a hasp. The jail housed an occasional offender for disturbing the peace or becoming intoxicated at a dance at the I.O.O.F. hall. The offender was locked up overnight until the sheriff from Suisun could pick up the prisoner in the morning.

During World War II, the building was moved by tractor to the knoll near the school south of town. Here, the citizens of Birds Landing used the jail building as a lookout station in their air watches. They were participating in an air raid defense program in which civilians reported every airplane sighted to a central defense command.

Summary. The history of Birds Landing may be ordered into three chronological phases which roughly correspond to the generations of families who developed the community and grew with it:

1870-1900:	Dinkelspiel, Bird, Krause, Kennedy, Winegartner, Robinson;
1900-1923:	Halloran, Blackwelder, Yolo, Bussierre, Leutholtz;
1923-1940:	Snyder, Miller, Yolo, Larson, Benjamin, Bacon.

All of these families and others contributed to the ethnic and socio-economic mixture that was Birds Landing. Many of them have retained a very strong emotional commitment to the community, as is evinced in the oral history.

#### Railroad Corridor

The railroad corridor extends from the vicinity of Montezuma Station (near Collinsville) to a point near Rio Vista Junction, along the Sacramento Northern Railroad right-of-way. Railroad stations spaced along the line date from the construction of the railway, about 1913. North of Birds Landing, pioneer ranchsteads are also found, dating from the middle to late 1800's. In general, the resources within the corridor are less dense than in other regions discussed in this chapter.

Location 28H. The historic features found at this location are associated with the cattle yards and the nearby rail line. Livestock was shipped by rail from this point, and a corral and pasture are part of the location. On August 6, 1912, the A. M. Merrill Ranch granted twenty acres to the Oakland, Antioch and Eastern Railway for a right-of-way and station. The Montezuma Station consisted of a small freight and passenger depot and a 975 foot spur line (California Department of State 1914).

The train was ferried across Suisun Bay at Chipps Island, connecting Oakland to Sacramento. The rail line supplanted river steamers as the main transport for incoming commercial goods and such outgoing products as grain, lambs, and cream. It was considered by some consultants to have been an important factor in the development of the area.

Passenger and freight trains ran at intervals throughout the day; freight trains also ran at night. Collinsville residents and farmers rode as passengers and also shipped products from Montezuma Station. Passenger service was discontinued about 1940, but the line was used to haul steel during World War II and to ship cattle for the McDougal Livestock Company during the 1950's. Today, the tracks stop near Montezuma Station, although portions of the old railroad grade toward Suisun Bay are still visible. Location 28H is marked by concrete foundations and a large corral near the rail line.

Location 41H. Archaeological survey discovered this location approximately 60 to 70 meters west of the Sacramento Northern Railroad line and immediately south of former County Road No. 482 leading from Collinsville Road to Grizzly Island. The property was once part of the Emma L. Muzzy farm, purchased in 1919 by Neal C. Anderson.

Archaeologists noted soil impressions left by a former structure, as well as a broad wooden platform and a horseshoe pit. Historical debris, such as round nails, bottles, bone, and cement were also found. Although no historical documentation has been found for this location, its close proximity to the railroad, and the limited nature of the materials found, suggest that it may have been a temporary or intermittent camp associated with construction or repair of the railroad.

Site 45H. This site is Molena Station. The land was deeded to the Oakland, Antioch and Eastern Railway in 1912 by

Lena Dinkelspiel. The station name, as old timers are wont to tell, is taken from the names of Moses and Lena Dinkelspiel. As laid out by the railway, the station was comprised of a 620-foot spur line with a 28 by 32 foot adjacent stock pen along with a freight shed, platform, and shelter station. These were built according to standard railroad plans. The freight platform and shed measured 16 feet by 30 feet. The shelter station was a long platform with a covered seating area for waiting passengers. The shelter station burned in October 1914 and was replaced (California Department of State 1913).

The railroad brought in construction crews comprised mainly of Greek immigrants; local maintenance men were also hired. Section crews were located approximately every ten miles along the line, and one of these Greek crews camped at Molena Station. In later years, the crews were comprised mainly of people of Mexican heritage.

Molena Station was later expanded into a large facility with several buildings and support structures, becoming an important rail stop for the people of Birds Landing and surrounding farms. In addition to the passenger station at the north end of the area, there were a foreman's house, one or two smaller structures which housed the repair crews, and a well, windmill and water tank. The southernmost building was a large warehouse where grain was loaded onto the trains. The station-master's house was a single-story, shingle-exterior structure with an associated garage. The concrete foundation of the house is evident today and the garage is still standing, but the house itself has been moved to the Collinsville fishing resort. Other buildings included a scale house, the foundations of which can still be seen. One consultant relayed the information that several items from the scale house had been stolen or vandalized and that the scales had been removed for safekeeping.

Until the 1940's, Mr. Blakemore owned the warehouse at Molena Station. Each winter two or three coal cars were unloaded there, and area residents would sack the coal for use in their home stoves. Jim Leutholtz and Ed Anderson purchased the warehouse during World War II, using it for grain storage after the demise of the railroad (TCR Field Data).

Site 47H. The Thomas T. Hooper ranch, west of Birds Landing, was one of the larger farms in the area, consisting of over 1000 acres. Hooper learned the carpenter's trade in his native Massachusetts; he sailed to California in 1850, and worked as a carpenter in Benicia. His career shifted to government service and in 1854, he was appointed postmaster of Benicia, a post he held until 1862, when he moved to the Montezuma township farm.

Hooper raised winter wheat, some barley and hay; he also kept swine and dairy cattle, as well as other cattle. His son worked as a retail grocer. The Hoopers retained the farm until about 1890 to 1900, when it was acquired by Edward A Young. Young had emigrated from Canada in 1860, and moved to Solano County in 1876, where he and his two sons continued to raise grain on most of the acreage. They rented the low lands near the slough to the Ghigoli family, who managed a dairy business. After Young died in 1919, his son, Wood, worked the farm with Walter Halloran for several years. Wood Young moved to Suisun, but kept close ties with the Birds Landing area. (Long time residents consider him to be one of the most knowledgeable historians of the area.)

Archaeological reconnaissance of the Hooper homestead area revealed a rectangular depression with light and dark brown bricks, an underground cistern, a possible cellar, and a wooden corral. A water tower and a windmill still stand at the site.

Site 48-H. This extensive historic ranchstead site, according to basic documentary sources, is considered to be the homesite of William Donell, dating at least from the 1870's, and possibly earlier. The site is one of the most complex, in terms of physical remains, in the northern portion of the project area. The homesite itself is separated from Shiloh Road by a distance of approximately one-fourth mile, and the railroad berm further closes the site off from visual and aural influences. The setting of the Donell homesite is best seen in the aerial view of Plate 13.

The remains of the ranchstead include a large and a small barn, a windmill, a brick lined depression, possible privy locations, a possible house-foundation outline with brick footings, and an extensive scatter of historic debris. The entire complex is marked off by rows of eucalyptus trees, lining the entrance from Shiloh Road and bordering the northwest portion of the homesite. Trees also delineate a field area to the north of the house complex (Plate 13 illustrates this feature). The complex of features has been disturbed in recent times both by bottle hunters and trash disposal in the brick-lined depression. The barn and the smaller shed (possibly used as quarters for laborers) are standing, but in relatively poor condition. The windmill is still operating although it is very unstable.

The Donell place was first identified on the 1878 Thompson and West map (1878b). Donell was listed as owner of 320 acres. The map of 1890 portrayed the same ownership, as did the maps of 1909 and 1915 (Eager). Census records indicate that Donell came to the area sometime in the 1860's, as he first appears on the population census of 1870, unmarried at age 36 (U.S. Bureau of the Census 1870e). At that time he was apparently living with Frank Taylor, age 31, and a "domestic", Lich Lun, a native of China. Both Donell and Taylor were listed as naturalized U.S. citizens born in Ireland. The 1870

## PLATE 13

### THE DONELL RANCH

This is an aerial view to the northwest of the William Donell ranch site. Donell, a native of Ireland, first came to Nevada as a miner, and settled in the Montezuma Hills in the late 1860's. Donell probably occupied this ranch by the early 1870's. The only remaining structures are the barn, out-building and windmill in the central portion of the plate. The eucalyptus trees immediately right of the barn define the location of the house. Shiloh Road can be seen running through the center of the plate. The rail line and trestle are later intrusions into the ranch layout. (TCR-M 1+2/23[5]:3/13/80)

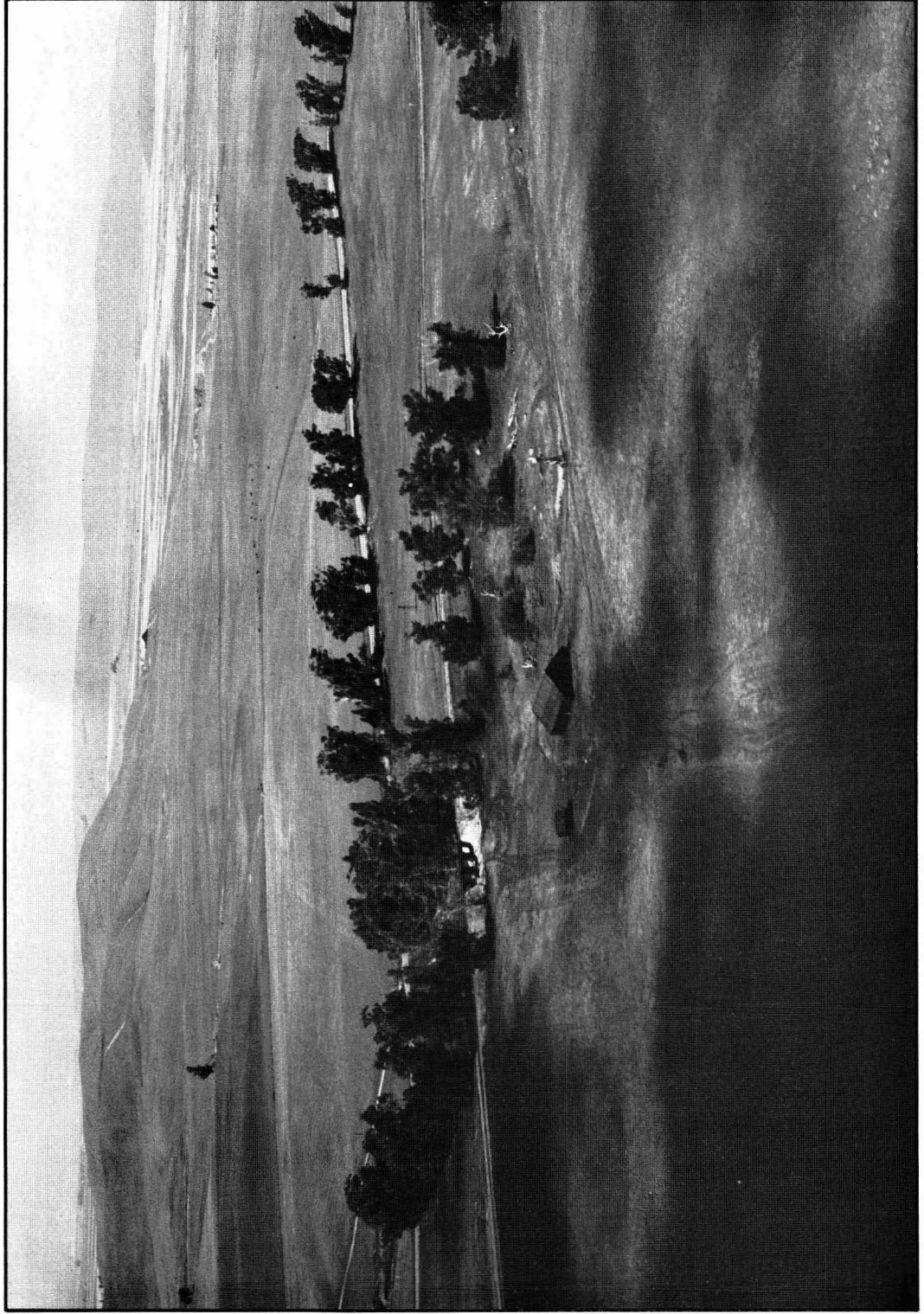


Plate 13  
The Donell Ranch

agricultural census indicates that William Donell was operating on 1000 acres, with a cash value on his farm of \$20,000 (U.S. Bureau of the Census 1870d). At that time he had 15 horses and apparently grew mostly wheat. The population census for 1880 showed Donell to have married Addie, 18 years younger than himself. He had four children and three boarders in the house, and one female domestic was listed in association with the family (U.S. Bureau of the Census 1880d). The 1880 agriculture census indicated Donell was still predominantly producing wheat on 320 improved acres (U.S. Bureau of the Census 1880c). In 1900, Donell, age 65, listed his four children (all still single), three boarders, and a niece as residing with him (U.S. Bureau of the Census 1900).

Comparatively little is remembered about the Donell ranch or family by current residents of the area. The house was said by one consultant to have been two stories, with fireplaces upstairs and down. The house was said to be more ostentatious than most, with marble fireplaces and similar refinements not common to the area. This same consultant believed that the house was dismantled in the 1920's. Another consultant remembered Donell (presumably William) as a very large man who had to be transported in a wagon after his death.

Blacklock Ranch. The James Blacklock ranch was established during the late 1860's by a Scot who, in 1855, had emigrated to the United States through Canada. He was married in New York in 1863, and moved to California shortly thereafter. The Blacklocks settled on a 160-acre parcel about one mile east of the present family compound. A family member indicated that the original deed was signed by President Ulysses S. Grant.

Blacklock steadily increased his acreage over the next 20 years, first acquiring an adjoining 320-acre tract (Thompson and West 1879b:map). By 1890, he had purchased over 600 acres

more from neighbors (Eager 1890). By the turn of the century, Blacklock's son, Walter, had acquired a quarter section of Shiloh Road (the G. N. Daniels farm) and some farm land near Nurse Slough (Eager 1909). At present, the Blacklock ranch consists of about 1700 acres, which family members continue to farm. About one-half is planted in wheat and barley, and the rest is used for grazing sheep. Agricultural efforts have been augmented by natural gas leases since the late 1930's.

The two-story house in the family compound was built for Greenlief N. Daniels around the 1870's. Daniels was a Maine farmer who raised dairy cattle, poultry, and sheep on his 160-acre farm (U.S. Bureau of the Census 1880c). His four children, along with two adopted children, grew up on the Shiloh Road farm. By 1900, he had retired, sold the property, and was living with his daughter and son-in-law on the Brown ranch (U.S. Bureau of the Census 1900).

The rectangular channel rustic-sided Italianate home was surmounted by a gable-end roof. Broken box pediments ornamented the end gables. The building's symmetry was enhanced by a second-story central front gable about the entrance. The entry was flanked by fanlights and two double-hung sash windows. Flat, wood-sawn pilasters embellished the ends of the front and side facades. Originally, a balustrade veranda ran across the front facade. This building and the nearby Shiloh Church form a strong architectural unit; together they compose one of the last remaining examples of a building-type once prevalent in the area (see Thompson and West 1878b for illustrative examples).

Shiloh Church. The Shiloh Church was originally called the Cumberland Presbyterian Church. TCR consultants explained that the area along Shiloh Road was settled by Civil War veterans who received 160-acre tracts of land, and were apparently

responsible for the founding of the church. The original structure burned in 1875 and was rebuilt the following year. A cemetery is associated with the church, a custom with many 19th century churches, and burial plots are owned by members of the church association.

Throughout a century of use, the church has been a unifying force in the Shiloh Road area and in much of the Denverton township. Residents of the Norwegian farming community came by horse and buggy to Sunday School. A minister traveled by boat up the Montezuma Slough as far as the Birds Landing warehouse, where he could obtain a ride for the remainder of the trip. Around the turn of the century, a Reverend Barkway served the congregation while also preaching in Dixon. Barkway married Elizabeth Weavers, sister of Mary W. Taylor of Birds Landing. In later years (circa 1920's) Reverend Storey of Sacramento held Sunday services at Shiloh Church.

As the congregation diminished, use of the church declined proportionately. Regular services were discontinued and the building fell into disrepair. During the 1950's, the Montezuma 4-H Club began a restoration project. Local families contributed funds, materials, and labor to restore the building to its former condition. The Blackwelders, for instance, contributed to the renovation of the flooring. (Martha Krause Blackwelder had previously donated her pump organ to the church when she moved in 1918.) Interior light fixtures were converted to electricity; vandalism damage was repaired.

Services are no longer held at Shiloh Church, although an occasional wedding or funeral takes place there. As the oldest standing church building in the Montezuma area, the California Historical Landmark Advisory Committee declared it, in 1969, a recognized Point of Historical Interest (Solano County Historical Society 1969).

### Waste Disposal Site

The waste disposal site is an area of approximately 2240 acres. The area trends generally from an elevation of 140 feet in the south to 50 feet in the north. Five intermittent drainages cross the area, all trending generally to the north. The topography of the area is one of low, rolling hills, possibly the extreme northerly occurrence of the Montezuma Hills, although the topography is very much less hilly than more southerly portions of the project area. The waste disposal site is bounded on the east by Highway 113 and is crosscut east-to-west by Flannery Road.

The waste disposal site is an area of very low settlement density. This is true today and was also true during the early history of the area. The documentary record and oral testimony indicate that the area has been used extensively for agriculture including attempts at cattle and sheep ranching. The actual number of residents is probably less now than in the historic past, as indicated by the number of deserted ranchsteads encountered. This may be associated with the general tendency in the area to consolidate agricultural lands into large holdings through fee or often through lease. The historic settlement pattern is strikingly different from the more southerly portions of the project, where houses, businesses, and ranchsteads are located along roads, often in close proximity to one another. In the waste disposal area, settlement appears to have been much more dispersed, with settlements or ranchsteads away from roads, well within the large agricultural parcels.

A number of possible determining variables may have contributed to the historic settlement pattern. The majority of historic features and sites located within the area occur in close proximity to one of the drainages. The only exceptions

are two sites along Flannery Road. Water, as noted in conversation with local consultants, was a major concern of ranchers, and proximity to these drainages may have provided not only surface water for livestock but the increased likelihood of producing good wells. There is also the possibility that ethnicity, or the culture of origin or influence, may have contributed to the development of settlement patterns. Jordan (1973) has proposed that settlement patterns in Europe vary according to region and society. In much of southern Europe (the Circum-Mediterranean area) villages tend to be of the clustered, irregular type, while much of central Europe is characterized by hamlet and street village types. Of particular interest is the predominance of dispersed, rural settlement in Scandinavia, characterized by scattered farmsteads. The presence of a high number of Scandinavian immigrant ranchers in the project area may have contributed to the preference for such a scattered pattern. The study of settlement pattern types must be based on broader regional considerations and an understanding of a wide range of potentially contributing variables. The differences between areas within the Montezuma I and II study region represents an opportunity to view the actions of these variables over time, particularly the predictive capacities of ethnicity with regard to general patterns of residence and land use.

The waste disposal area was surveyed for the presence of prehistoric and historic archaeological resources. This was completed in the early spring months of 1980, and the same survey techniques were used as those employed in the remainder of the project area. No prehistoric sites were located, although eleven locales of suspected historic significance were discovered. The documentary record, particularly map sources and census data, as well as information provided by field consultants, were used to reconstruct the past of the area. Of the eleven locales, five have been determined to be historic

sites. The remaining have been considered historic locations of somewhat less significance.

The availability of information for the waste disposal area is less than for other parts of the project area. A number of obvious factors may be seen as contributing to this, including the low density, dispersed population; the lack of a center of activity within the area (cluster of residences or a commercial center); isolation from the early transportation network (e.g., Sacramento River shipping). The best sources of information have been documentary-based data such as population and agricultural censuses, and oral testimony. The greatest amount of specific feature and site-related information has been gained through consultant contacts.

Each of the historic sites is discussed below. Included is an abbreviated discussion of the physical attributes of the site and a statement of the general history of the site.

Sites 53H, 52H. The Will Flannery Homesite (Site 53H) was discovered during the field survey and identified by a knowledgeable field consultant. The Flannery families' presence is also in evidence on maps and in census records. The Will Flannery homesite is closely associated with the Frank Flannery homesite (Site 52H), also located in this area. John Flannery first appeared in the agricultural census of 1870. He farmed 160 improved acres, raised swine and milk cows, grew wheat and barley, and produced 1000 pounds of butter yearly. By comparison, the acreage and produce of the Flannery farm were smaller than the remainder of the farms reported in that census for the Denverton Township (U.S. Bureau of the Census 1870d). The 1880 population census indicated that Catherine Flannery, presumably the wife of John, was widowed and farmed in Denverton Township with her four sons; Frank, William, John and Phillip, daughter Mary and Augustus Lahillier, a Frenchman working for the

Flannerys as a laborer. All of the Flannery children were born in California (U.S. Bureau of the Census 1880d). The 1900 population census indicated that the Flannery household consisted of Catherine, now age 65, living with her son Frank, his wife Mary and their children Wilfred and Agnes (U.S. Bureau of the Census 1900).

Map sources indicate that P. J. Flannery, presumably John Flannery, also owned an "estate" in the general vicinity (Eager 1890). Eager (1909) lists Flannery, Cameron, et al., as owners of this property. Eager (1915) indicated an unusual subdivision of this land. It was divided into four long, narrow parcels, oriented north-south. F. J. Flannery retained 65 acres to the east. W. S. (Will) Flannery owned approximately 40 acres to the west, while J. T. Brown owned two parcels of approximately 50 acres each, between the two Flannerys. In addition, the 1915 Eager map indicated the presence of power poles along Flannery Road in this area. One very knowledgeable consultant stated that Will Flannery's homesite contained a home and other structures. He also believed that the home had been moved to Rio Vista. Frank Flannery's homesite was located to the east of Will's. The home is said, by this same consultant, to have burned, perhaps 20 years ago. Frank Flannery worked as an assistant county assessor for the County of Solano and at that time divided the 160-acre parcel into the four smaller units for his children.

At present, no structures are present at either Site 53H or Site 52H. A depression is evident at Site 53H, along with a scatter of recent trash. The area has been plowed and is the site of a drilling waste dump. The operator of this dump remembered the Will Flannery house but could provide no detailed information. The archaeological potential of this site is unknown, since the surrounding area has been so heavily disturbed through dumping and agricultural activities.

Site 60H. This site, the "Bill Farrell Place," located in the northeastern portion of the waste disposal site, consists of the remains of a dwelling/ranch complex. The area is marked by depressions which may indicate features such as cellar holes, and privy or dump pits. Pieces of metal pipe as well as scattered remains of lumber were also found in the area. Near the dwelling site, another depression was located which contained a windmill wheel, bricks, and tin fragments. Crockery and glass fragments were also located in the area of the windmill depression.

The property on which these remains occur is first shown as a parcel on an 1890 map of Solano County (Eager 1890). Land ownership at this location is listed as 160 acres to William Farrell. Farrell also owned 160 acres to the northeast, although the two parcels are not contiguous. The William Farrell name was also shown in connection with this parcel on the Solano County maps of 1909 and 1915 (Eager 1909, 1915). On the latter map, the property was divided into four blocks or parcels of approximately 40 acres each. Also, on this map, William Farrell was shown as owner of the adjacent 160 acres to the northeast. Farrell appears for the first time in the population census of 1900 as head of household. He emmigrated from Ireland in 1874 and married Ellen, who was born in Missouri of Irish parents, (U.S. Bureau of the Census 1900). A local consultant stated that the Billy Farrell place burned in 1923 during a sweeping grass fire. Such fires were common during the summer months and were responsible for the loss of many of the structures in the area. All information available from field consultants indicates that the site has not been occupied since the time of the fire.

Site 55H. The Patrick Hagan homesite consists of structures and other remains which represent a large historic ranching operation. This ranch began early in the history of

the area and remained in the Hagan family until 1972. The number of intact structures and features at the site is large compared to other sites in the region. Combined with the information available from Patrick Hagan's grandson, data on the site is comprehensive.

The Hagan homesite was comprised of a cluster of residence and farm structures. Standing now are two houses, a garage, two barns, and a water tower. The complex is surrounded by the eucalyptus trees common to such historic residential sites. The complex also contained six structures, no longer standing, and two privy locations. Each of the standing structures is discussed below, beginning with the large house and proceeding clockwise. The sites of former locations are given in relation to standing structures as they occur. The details of privy locations are withheld as sensitive information.

The large house was built by the Hagans over a period of time, as they bought other ranches in the area. The structures were moved to the site and joined with the existing house. The consultant did not provide specific dates for these incidents of house-moving; however, to coincide with the expansion of Hagan family holdings in the area, these moves would have taken place in the early part of the 20th century. The consultant remarked that at least two, and probably three, houses were combined to make up the house now standing. This house was apparently occupied by members of the Hagan family until 1945, and the ranch was sold by the Hagans in 1972. The garage, approximately 30 meters to the southeast, was probably built by Mr. George Russell, who was responsible for the construction of a number of facilities circa 1915. To the southeast are three metal grain bins built by Hugh and Lester Hagan about 1950. To the southwest, across the unpaved drive, is a second barn, built of redwood. This barn was reported to have been set up

by Charlie Campbell, circa 1910, at a cost of approximately \$1000. In the general vicinity of the barn was a privy used by hired ranch hands.

A small chicken house is located about 30 meters east/southeast of the barn, and was built by Russell circa 1915. Two structure sites, not indicated on the archaeological site record, are located within the circular drive. The first, located to the north of the chicken house, was the site of an earlier chicken house. Adjacent to this, to the north, was a barn--the first at the site--which the field consultant remembered as a sheep-shearing shed. Also within the circle drive is the watertower, still standing, used to store well water for domestic use. A large barn sits to the southwest of the drive. This was constructed of redwood about 1915 by George Russell, at a cost of approximately \$5000. Russell is said to have milled the lumber used to build the barn.

Directly north of the barn, in line with the northeast/southwest-trending portion of the drive, were two structures, no longer standing. The first was a harvester shed which is reported to have burned. The second was the location of the first house at the site, said by the field consultant to have been built circa 1870. He remembered it as having a single pitch, slanted roof, dimensions of about 12 by 15 feet. Northeast of this are three standing structures. The first is the bunkhouse, which is actually part of the Frank Hagan home. Above this is a work shop of undetermined age. A small smoke house stands to the west of the existing home. Three small structures were located in the general area to the northwest of the large house. These were a wood shed, a wash house and a privy. None are standing.

The Hagan family raised crops of wheat, barley, and oats, and much like others ranching in the area, rotated crops and

grazing to maximize production. The field consultant stated that the Hagans realized early that the soil was not capable of producing a yearly grain crop. Grazing was substituted for one year's use, and in some cases the land was allowed to remain fallow for an additional year. This two-to-three year agricultural cycle is similar to that reported for other ranches in the area and, according to the consensus, is the direct result of poor, "adobe" soils, which were easily exhausted if not allowed to fallow. Sheep were allowed to feed on stubble and the natural clover which sprang up in the first fallow year. Irrigation was not attempted on the Hagan ranch (TCR Field Data).

The ranch totaled, at one time, over 3300 acres. The main ranch lands consisted of just under 1800 acres, with additional acreage in outlying areas. It was not determined if this extra land was leased or owned; however, most such large ranches did contain substantial percentages of long-term lease lands. Grain sales from the ranch, during the field consultant's youth, went to J. C. Stern of Rio Vista. Stern also owned a general store and often kept accounts with local ranchers, exchanging store goods for farm produce. Grain was also sacked and hauled to large warehouses in Rio Vista. Prominent warehousemen, Sullivan, Larsen, and Serpa, took in much of the crop. The bulk of the grain was barged up or down river from these Rio Vista warehouses. The field consultant stated that, though time, the number of buyers has increased, allowing greater choice in the sale of grain crops.

The Hagan family was largely self-sufficient. The field consultant believed that the family produced more of its own food than other families in the area. He remembered that flour, potatoes, and some other staples were all that was bought. They slaughtered and smoked their own meat and planted a varied garden for vegetables. Most commerce was conducted

with merchants in Rio Vista, as were doctor and dentist visits. The ranch first depended on horses for power and stabled up to 50 head. In 1920, a 75-horse Holt tractor was purchased, thus beginning the replacement of horses on the ranch. A stationary harvester was used at one time, requiring seven to ten men to operate. This was owned jointly by several neighboring ranches, a practice common throughout the study area. Such large equipment was often fabricated and purchased in Stockton. Hired hands came from the local community, and when additional workers were needed, word was circulated in Rio Vista. In more recent times, a greater and greater dependence was placed on the State employment services headquartered in Sacramento.

The longevity of the Hagan ranch operation is apparent in the map record. The Thompson and West map of 1878(b) indicated Patrick Hagan as owner of a parcel of land. This same map indicated that a house stood within that parcel. The Eager map of 1890 revealed the same ownership. Eager (1909) shows Francis Hagan as owner and reveals that acreage to the southwest was owned by the Hagan Estate. The Eager map of 1915 lists B. H., M. C., H. E. and C. A. Hagan as owners.

Site 54H. The Daniel Sullivan (often referred to as "Pioneer" Sullivan) homesite and ranchstead was located along an intermittent, north-flowing drainage. The site is well marked on current U.S.G.S. maps and is reached by an unpaved drive from Flannery Road. The site, as encountered in the field, consists of a standing barn, a raised level area, an artificial pond and dam, corrals, and a windmill with water tanks. It is assumed that the leveled area, north of the barn, is the site of the residential structure. The barn is still in periodic use for hay storage. Parts of wooden farm machinery are still visible at the site, along with a general scatter of historical debris common to ranchsteads.

The Sullivan ranch is well documented in census and map sources. Daniel Sullivan first appears on the 1860 population census (Appendix B), along with wife, Sarah, and children, Sarah, William, and Elizabeth. Daniel was 30, Sarah 28, and both were born in Ireland. The two older children (ages seven and five) were born in Pennsylvania, indicating that the family probably spent some years in that area. The youngest daughter was born in California. Also living with the family was James Hallet, age 24, a native of Ireland (U.S. Bureau of the Census 1860c). Daniel Sullivan appears on the 1877 Thompson and West map as the owner of 800 acres. A structure was also indicated on this map in Sullivan's property (Thompson and West 1878b). The 1880 population census indicated Daniel, Sarah, and John M., with no other children at the ranch. The ages given for Daniel and Sarah (both 56) do not correlate with the 1860 census ages (30 and 28), nor is John M. listed among the children in 1860. It is possible that John was the son listed in 1860 as William as the ages are approximately the same (U.S. Bureau of the Census 1860c, 1880d).

The agricultural census of 1880 (Appendix B) does not verify the extensive land holdings indicated on the maps. This census lists Sullivan as cultivating only 40 acres, and possessing only one horse, four cows, and having the lowest production in crops and livestock in the Montezuma or Denverton Townships. The value of the farm was given as only \$700, the lowest of any of the ranches examined in the 1880 census within the general study region (U.S. Bureau of the Census 1880c). The disparity between map and census data may be due to a number of causes. The family may have fallen on hard times, the census data may have been misrecorded, mistranscribed, or deliberately altered to some end. The disparity cannot be explained from the data recovered thus far. D. C. Sullivan continues to be indicated as the owner of 800 acres in 1890 (Eager 1890:map). The same tract is listed under J. M.

Sullivan on the 1909 Eager map. The 1900 population census lists John M. Sullivan, age 40, widowed, living in the township (presumably on the ranch) with a boarder, Arthur E. Bullard, native of England, also widowed (U.S. Bureau of the Census 1900). The same ownership pattern is shown on the 1915 Eager map. Little information was retrieved from field consultants about the ranchstead or the family. The Sullivans were generally known as an early family in the area. John M. was referred to as "Pioneer" by one consultant, who also remembered that he was the owner of one of the first cars in the area.

## CHAPTER 7

### RESOURCE SIGNIFICANCE

The Montezuma I and II study area is geographically dispersed and historically complex. The prehistoric past is represented by an archaeological deposit; the early settlement period by the Hastings Adobe; and late 19th century agriculture and town development by the numerous ranches (many still operating) plus the structures and remains of communities such as Birds Landing. The many facets of human history in the study area have been explored during this research project and the result has been the inventory presented in this report. This inventory comprises a preliminary record of features of the historical/cultural environment which warrant further consideration. It is the purpose of this final chapter to present a further assessment of the importance or significance of these resource sites and regions.

Significance assessment is perhaps the most difficult aspect of project-related research. Such assessment necessarily requires consideration of similar cases and the parallel experiences of other researchers. Significance is also affected by the considerable (and sometimes vague or confusing) body of laws, legal interpretations and conventional practices arising from day-to-day treatment by agencies and responsible private developers. Finally, significance requires judgement by the researcher familiar with the resources of the study area. Guidelines and discussions make this an "educated"

judgement; however, clear equations do not exist which would allow the investigator to completely hurdle the dilemma of personal evaluation and choice. This chapter will describe the many variables which must be considered when making evaluations of significance. It will explore the scientific, legal, public and "personal" components of the significance of resources within the Montezuma I and II study area.

### Significance: Some General Considerations

Cultural resource management is a relative newcomer to the general endeavor of environmental review and impact analysis. The field encompasses the more or less allied fields of archaeology, historic archaeology, history, ethnohistory and cultural anthropology. Cultural resource analysts also draw heavily on the methods and models of the other social sciences, particularly cultural geography. It is the expressed purpose of cultural resource assessment to locate and evaluate the elements of the environment which represents human history. Within this general context, it has been understood that a particular feature or resource increases in importance in relation to its ability to contribute to our understanding and appreciation of the events and patterns of that history. The very nature of the cultural resource field, combined with the inherent complexity of the resources themselves, creates difficulties in determining the relative importance of these representative sites. Some of these problems will be discussed below.

Because resource investigations must be made by professionals from the various subdisciplines that comprise history and anthropology, there is the expectation that the cultural resource environment will be assessed differently by each investigator based on his or her training in the techniques, methods and "world view" of these disciplines. An architect-

tural historian, for example, may see the importance of the Hastings Adobe as an expression of the conditions and repertoire of available construction techniques which influenced pioneer settlement in California. An historian may be interested more in the flow of events signified by the structure--events which are part of the development of the Delta region as a whole. The historic archaeologist may be fascinated most by the potential of undiscovered privies, wells, trash deposits and the like, all of which could, in the proper framework, reveal much about the development of the site and the lives of the settlers who occupied it. In important ways these various views may be seen as complementary; however, conflicts over interests are equally probable. One researcher may wish to see the maximum effort turned toward preservation of structures, while another may favor exploring the potentially rich archaeological deposits. This potential for conflict between disciplines becomes significant in the real world of finite research and preservation funding.

The solution to these pervasive dilemmas has been increasing vigilance at the early stages of research to insure that all aspects of the resource potential are identified, explored and interrelated. It is within this methodological framework that the hard decisions about the relative importance of resources, or of features within a single resource, must be made. Caution must be exercised when such decisions are made, especially in cases where impending impacts may disturb historic resources and data are lost beyond recall.

Several anthropologists (principally archaeologists) and historians have addressed the complex concept of resource significance. Schiffer and Gumerman (1977) offer one of the most concise discussions of significance. King, Hickman, and Berg (1977), and Morrato (1975), among others, have added their experience-based considerations to the continuing discussion.

Schiffer and Gumerman have categorized significance into non-exclusive frames: scientific, historic, ethnic, public, and legal (1977:241-247). While they agree that none of these is exclusive of any other, there is a certain integrity within categories which allows a discussion of the kinds of value or importance a resource might possess. Of particular interest here are the categories of scientific, ethnic and public significance.

### Scientific Significance

Scientific significance is the potential of a resource to contribute to the understanding of the events and processes of human history. This translates directly as the "research potential" of a resource (Schiffer and Gumerman 1977:241). The scientific potential of resources becomes greater when it can be demonstrated that resources, through the data sets they contain, can be used to address critical questions developed by historians and anthropologists. In the past, such research questions have been developed via regional research designs although this process has been limited almost exclusively to prehistoric archaeology. Despite this, it may be said that for any given region, there are broad as well as specific questions which are central to understanding the events and development of a region. Population movements, contacts between peoples, changes in social organizational principles, or development and changes in subsistence and economic practices may all be addressed by specific research. Resources are then assessed according to their utility when seeking data relevant to questions arising from such research concerns. Such evaluation therefore depends upon the quality of the research design available for a region, the appropriateness of the questions developed from that research design and the kind and quality of data available within the resource. The research potential

(scientific significance) of the resources in the study area will be discussed with reference to these enabling or limiting considerations.

#### Archaeological Data Base

The resources of the study area are predominantly historical; most of these may be said to consist of, or at least contain, known or suspected historical/archaeological deposits. The preliminary inventory has endeavored to assess the nature and condition of recoverable data associated with these resources. This assessment is limited, however, since subsurface testing was not undertaken. Therefore, evaluations are tentative and are based on surface survey in combination with oral testimony and, in some cases, data from the documentary record.

Surface survey revealed varying conditions of these deposits ranging from suspected high integrity to nearly complete destruction and, therefore, loss of potential. The sites of early ranches, commercial and residential structures have, in almost all cases, been "dug" for bottles; bottles have the highest consistent market value in the public arena. Excavation continues to take place at known privies, trash dumps, and abandoned well sites. Foundation remains are also explored since bottles were often left along mud sills or at piers at the time of construction. This has resulted in considerable disturbance, particularly at sites which are known or found to be comparatively old. As readily discernable trash deposits are exhausted, increasing effort is made to discover deposits not indicated on the surface, therefore increasing the area of disturbance. The search for bottles, which in its way is sophisticated and systematic, has nonetheless disturbed and mixed other important but less glamorous cultural debris. This

is particularly destructive of stratified deposits which are significant for establishing chronology and are crucial to any assessment of change through time.

Agricultural land use has also disturbed many deposits. For example, plowing has scattered crockery, glass, metal, wood and other debris over a wide area around the Dadami homesite on Stratton Lane. This has obscured the locations of surface features and may have destroyed the integrity of suspected subsurface deposits. This type of disturbance is less prevalent than bottle hunting although its effect is in many respects more profound.

Many positive examples of archaeological potential were discovered in the course of the survey. Although disturbed, most historic ranch, home and commercial sites were marked by discernible privy, well and trash deposit features, and structural elements such as foundation remains, cellar holes, and remnant building materials. On the surface, such remains allowed recording (mapping, written descriptions and photography of features) with some certainty of interpretation. The accuracy of this process was heightened considerably with the addition of oral history data, especially when former residents visited the sites in question.

#### Oral History Data Base

The study area is well remembered by residents and former residents and it has been the finding of this research effort that the oral testimony to the history of the area is both rich and varied. Since the great majority of resources are historical, the oral record and the potential for future data retrieval are integral to the evaluation of the scientific research value of the study area. The high degree of residen-

tial stability within the general area and the continuity of land use are the significant contributors to this situation. Former residents and descendants have been able to describe the original appearance and location of site features such as houses, barns, outbuildings, trash pits, wells, and fences. They also have provided detailed information of the type necessary to reconstruct economic activities in the area, addressing such topics as the relationship of agricultural areas to residential areas, yearly agricultural and grazing activities, patterns of wage labor, development of economic cooperation between families, economic relationships to outside markets and economic institutions, as well as the development of small scale localized commercial ventures. The quality and potential of these data are outstanding. Individuals not only can help locate and describe resources, but they can give facts and impressions of the more easily lost aspects of the past: social activities and the quality of life.

Any research design must consider the oral record as integral. This testimony alone will generate sufficient answers to significant research questions. In addition, the oral history and archaeological data may be said to possess a special relationship since, in many instances, the primary value of an historic locale may lie in its potential as a mnemonic vehicle through which oral data may be elicited. That is, the preservation of a particular physical resource may be justified by the fact that it can assist in the recovery of significant oral history which would otherwise be lost if the stimulus to recall were destroyed or altered. The utility of resources for this process has been found to be true, especially for the ranchstead/farm complex in the Stratton Lane and Collinsville resource regions. The detailed information derived from the recent uses of the Hastings Adobe area are exemplary of this potential. While oral testimony does not replace archaeological and documentary based data, it is in many instances a full

companion to them. Where present, such data must be included in the calculation of the scientific research potential of a resource.

#### Documentary Data Base

As with many areas of rural California, the documentary or archival data base is extensive. These data have been sampled extensively in the course of this research but by no means have they been fully exploited. Early maps, census data (population and agricultural), school, business and property ownership records all provide site-specific information. Such data has been used to establish historic trends, changes in the density and composition of populations, settlement patterns and patterns in the ownership and use of land. Potential for further resource-specific investigation is high. Such data can be used to develop hypotheses generated from the above mentioned topics. Details of property ownership (chain of title) are particularly relevant to the interpretation of the flow of events and the particular historic sites. The extent to which these events of land ownership are reflected in the archaeological record is as yet unknown; however, they must be considered necessary corroborative evidence. The documentary record is in many ways the genesis of certain types of research questions which can then be placed in an operationalized framework and addressed in directed oral history and archaeological research. The quality of the documentary data potentially available for a particular site is one component which contributes to its scientific research potential.

#### Research Questions

The examination of the resources within the study area has and will continue to yield data applicable to a broad range of

research topics. Particular resources with differing constellations of known or suspected data sets differ in their potential for meaningful research contributions. Each can be assessed, however, as it contributes to significant regionally-based research topics.

The most general set of questions revolves around the history of settlement and development within the study area. The composition of the original population of the area is of particular interest. It has long been believed that unsuccessful miners turned from the gold fields of the Sierra to agricultural lands of the Central Valley, coastal mountains, and Delta areas. Subsequent population growth is suspected to have been heavily influenced by chain migration; that is, the in-migration by members of the families or former associates within the community of origin to the area of the original settlers. It is also thought that populations tended to cluster in settlements or enclaves based on shared ethnicity or nativity to the extent possible under the constraints of the local economy and regulations concerning land acquisition. The degree to which these patterns are represented in the study area are imperfectly known, although some substantive evidence has been found which would support the notion that these principles have had a significant affect on past and present configurations of the local population and its settlement clusters. Questions remain, however, concerning other demographic principles which may be operating within the area. The interesting aspects of ethnicity-based settlement have perhaps overshadowed the search for other demographic principles which may be influencing the local area.

The development of alternative models contributing to the explanation of population and settlement patterns could be based upon factors such as regulations directly affecting the availability of land, particularly public domain and homestead

land laws. It is expected that choice of plots, especially during the early period of settlement, was influenced by the way in which land was made available to settlers by the federal government through its public domain and homestead policies. Parcel size was limited and this surely influenced the selection of parcels for perceived environmental qualities (soil type, drainage, fertility, slope) and must have had a strong secondary influence on the development of regional land use patterns and the subsequent redefinition of parcel holdings, particularly on the larger or expanding ranches. Another profitable avenue of exploration for regularities in land and population development should center on the environmental potential of the study area and its relationship to prevailing agricultural practices, particularly technological conditions. It is expected that parcel choice, either initially or as ranch ownerships changed, would have been directly affected by considerations of soil type and other environmental characteristics in combination with available technology. There is evidence that the particular conditions of the dry clay soils and extreme slopes of the Montezuma Hills formation may have prompted innovations in mechanical agricultural implements as well as in the development of family- or community-based economic cooperatives in order to meet the demands of high capital investment in such agricultural technology.

The development of particular ethnic enclaves within the study area or in the immediate vicinity of the study area has also been noted. These include the Italian community of Collinsville, "Little Norway" near the northern part of the study area, and the general representation of Scandinavians among the ranching families throughout the study area. What is the basis for the development of such enclaves? How were they distinct or differentiated from the surrounding communities? And, what was the nature of the interaction of the enclaves and the larger society? How did those outside perceive members of

such communities and what are the regularities and differences between this and the insiders' perception of the larger society? What mechanisms tended to bind these enclaves (i.e., economic cooperation, social ties, bonds of sentiment based on nativity and shared ethnic or national heritage, kinship ties) and what factors contributed to change in composition and in some cases to their apparent disappearance? How did various ethnic populations interact and did conflict, avoidance, economic bonds, or general cooperation fall along lines of ethnicity?

A number of "middle-range" questions are also suggested by the inventory research. Since there appears to be relative stability of population in some areas, or at least stability in types of economic enterprise and land use, the study area offers an opportunity to examine change through time of a number of significant social and economic institutions. Topics of interest include patterns of consumption: local trade and reciprocity networks, the effects of technological changes such as electrification and the introduction of telephones, changes related to the alteration of basic forms of transportation, changes related to outside market forces, and so on. Many of these topics can be phrased as questions or even hypotheses which can then be addressed through the data base. It is expected, for example, that changes in transportation of goods (e.g., from steamer or barge to train and then to truck) would correlate with changes in consumer habits. In this case it would be expected that there would be evidence of changes in the location of purchase, the range of goods available and changes in personal preference. How did such events affect the economy of the home? How did it alter interpersonal or community-wide relationships? Did these events affect patterns of localized subsistence horticulture or home manufacture? How did the personal social networks of individuals and families change as transportation opportunities changed and expanded?

How did specialized outside market practices change? How did travel patterns to Bay Area, Delta and Central Valley cities change? These are all specific examples of the potential for research which can be addressed from the data base in the study area.

These types of questions (questions can be developed for numerous topics) can contribute to the general discussion of change in the Delta region, and in some ways they correspond to the research concerns of anthropologists, historians, demographers, rural sociologists and cultural geographers. The fact of relative population stability, where it can be ascertained, adds to the precision by which other variables which may contribute to change can be assessed. Population stability is by no means unique in rural California; however, it does present a research arena which can be used to address change factors with some control of the ubiquitous variable of population change and instability.

There is, of course, the opportunity to study such classes of variables between stable and unstable segments of the local population. The question must be posed concerning the factors which contribute to population stability and movement or flux. What extra-community variables (such as market conditions or other national or regional economic conditions) contributed to local population trends? How did local economic conditions (e.g., local wage labor opportunities) relate to population size? How did changing relationships to areas outside the study area, such as increased transportation or outside labor opportunities, affect the local population?

Agriculture (grazing, grain agriculture, small scale dairying and gardening and related activities) is the basic economic fact of the study area. The long use of the area, its varied soil, water, and geomorphology, and its ethnically diverse pop-

ulation all serve to make it an interesting focus of questions concerning the development of agriculture, technology, adaptation and innovation, as well as macro- and micro-agricultural economics. The project area soils and terrain were often implicated by consultants as the determining factor for the particular form of crop and grazing rotation which developed in the Montezuma Hills. How then was this adaptation to local conditions begun or discovered and tested through time? How did particular soils and climate affect the choice of grain crops? What is the relationship between soils and slope and the choice of early agricultural technology? Did these factors contribute to local innovations in technology or agricultural practices? How did agricultural land use affect local settlement patterns? Is the variable of ethnicity useful in explaining intra-community regularities and variations in agricultural practices (i.e., choice of technology, choice of crop or product, marketing practices or propensities to adopt certain types of new technology or to innovate in particular ways)? What is the relationship between transportation to and from outside markets and changes in agricultural practices? Did transportation changes alter the production or consumption of products such as milk, butter, meat or vegetables within the local market?

Perhaps it is most useful to view the development and change in agriculture from the perspective of models drawn from the subdiscipline of cultural ecology. The environment is in a large sense defined by those who would attempt to use it. Thus any population will view the environment in terms of their own culturally-based skills, traditional institutions and technological repertoire. Experimentation and innovation are practices which characterize the developing relationship between local society and the environment. In this process the environment itself may be changed as soils become depleted, natural vegetation disappears or slopes and drainages change. Society

is also in a state of change. When confronted with a new and unusual environment, new technologies are tried, traditions are altered or abandoned to memory culture, and new institutions (e.g., interfamily cooperatives, voluntary or self help associations) are developed or adopted. The changing society has in its repertoire of social and technological responses the opportunity to make a number of critical choices about the use of the environment--choices which may expand in scope with the addition of internal innovations and increasing technological input from the surrounding society. The present configuration of settlement and land use is the result of this process of change in both the society and the environment. The study of agriculture in the area must look at successful as well as unsuccessful innovations and experiments which have occurred through time. Such research is certainly relevant to our growing understanding of early rural settlement and agriculture in California.

#### Ethnic and Public Significance

The resources in the study area possess important characteristics beyond the considerations of scientific research potential. These have been categorized as "public" and "ethnic" significance by Schiffer and Gumerman (1977:244-245). Morrato also addresses these components of significance (1975) and King, Hickman and Berg contribute to this discussion of the "cultural value" of resources (1977:103-104).

Public significance is that element of the resource which can be used to educate the public and enrich its understanding of the patterns and events of the past. Public significance also includes those elements of a resource which can be used more broadly for public enjoyment. Public significance may also include elements of the resource which can benefit pre-

sent-day business or industry, that is, information from the historical record which has some practical economic use for present day undertakings. Resources which can be used for display (e.g., museum development, adaptive re-use of buildings retaining historic themes, historic components of visitors' centers and parks) can benefit the local economy through tourism; thus, the resource may be said to have public significance with an economic benefit to the local area (Schiffer and Gumerman 1977:245).

Resources may also be of significance to select groups within a society. "An archaeological entity which has religious, mythological, social or other special importance for a discrete population is said to be ethnically significant" (Morrato 1975:5). Such "discrete populations" might include immigration/nationality-based communities, groups with shared religious beliefs, or communities strongly aware of shared historical continuity or shared ethnicity of a broader nature.

The public and ethnic significance of a resource may or may not be compatible with the scientific significance of the same resource. To the degree that scientific significance is explored through techniques which disturb the physical aspects of the resource (e.g., archaeological excavation or historic restoration), the importance of these resources to the local "constituent population" may be violated. It is possible that the local community or special constituency would welcome the scientific exploration of resources; however, it is often the case that such exploration will disturb the very qualities which are appealing or meaningful to the local group. It is necessary, therefore, to carefully balance the evaluation of resources with multiple components of significance to avoid a skewed assessment and, consequently, misguided or inappropriate treatment of resources.

## Resource Significance

The following is a brief discussion of the known or potential significance of resources in the study area. In many cases the full range of potential data has not been ascertained; that is, archaeological testing was not undertaken, all possible field consultants were not interviewed, and all historic records were not consulted. The work that has been done in this inventory, however, does allow for the interpolation of the data base and suggests the kinds of questions or research topics to which such data can be addressed. Chapter 6 and the various appendices contain the base data from which these assessments are made. In many cases these assessments are offered as recommendations for further research, should the need arise. In only a few cases (e.g., the Hastings Adobe or Birds Landing) can the significance of a resource be described in a fairly complete manner.

### Hastings Adobe and Stratton Lane Area

The Hastings Adobe and Stratton Lane resource regions contain a number of cultural features which are of undoubted significance and scientific research value. The Hastings Adobe/Stratton Ranch complex is a significant representative of the Mexican, early American and later agricultural phases characteristic of the history of the project area. The resource extends far beyond the area currently enclosed by the protective fence. Research has revealed that there were many residential and agricultural buildings on the site. The archaeological potential of the site as a whole must be regarded as high. The relatively long tenure of the Marshall and Stratton families should be indicated by well stratified trash deposits and other cultural debris which might be used to address

change-related questions described above. In addition, the oral history potential of the site is high and surviving members of the Stratton family remember the family home and ranch operation quite well. The adobe structure is currently listed on the National Register of Historic Places, and while the structure does have undoubted scientific and public significance, the resource in its broadest definition (cf. Chapter 6) offers the opportunity to explore a broad range of regionally-based questions as a substantial augmentation to the previously determined significance of the structure itself.

Elsewhere on Stratton Lane several historic ranch complexes and residential units contain potentially significant archaeological deposits. These are Sites 61H, 64H, 1H, 2H, 6H and 4H. They represent residential units at the core of suspected small-scale ranching, dairying or horticultural activities. Each was family-based and many were closely tied to the "small economy" surrounding Collinsville. Based on surface manifestations, Site 6H would appear to have the greatest archaeological potential. The oral history component for this site is also valuable, therefore providing a combination of approaches which would yield data relevant to the questions discussed above. The archaeological potential of the remaining residential sites is not known, although it is suspected that vandalism, bottle hunting and cultivation have disturbed these deposits and reduced their research value. In each case oral history sources were located, thus contributing to their overall research potential.

The Stratton Lane area appears at this stage of investigation to be an interrelated "small community" existing in association with, but apart from, the community of Collinsville. Many of the questions regarding agricultural development, history of social institutions, economic trends as well as the facts of daily life might be addressed by examining each of the

resources within the context of this small community. The research potential or scientific value of each of the resources is therefore closely associated with the overall potential of the resource region for providing meaningful data.

#### Collinsville Road Area

The Collinsville Road resource region contains two types of resources which are of apparent significance. The first consists of the extensively scattered remains of the Upham estate, one of the earliest agricultural enterprises in that portion of the Delta. Second, two ranches (Site 00H and Site J, the Muzzy/Anderson and Walter Bird Ranches, respectively) are both interesting examples of the development of ranching enterprises in the later part of the 19th century. In addition, there are a number of other resources in this region which would appear have somewhat less significance. The latter are described more fully in Chapter 6.

The Upham estate is represented by resource sites scattered along Collinsville Road between Talbert Lane and the northern extension of the 20th century feedlot operation. The Upham estate was, from all available evidence, quite large, and it has been found that there are a number structural remains, trash deposits and extant buildings which probably date from "Upham's empire." The extent to which the Upham estate and, by extention, questions concerning early settlement and agricultural development, can be addressed through these resources is as yet unknown. However, further exploration of this very complex cluster of resources should reveal much about this early period.

The two ranches north of the Upham estate along Collinsville Road represent the opposite in terms of preservation and

the possibility for interpretation. Both are working ranches started in the latter part of the 19th century and developed through time to their present configuration. The history of this development can be seen in the physical remains of trash pits, privies, unused structures, foundations, etc. In addition, many buildings are still in use and, in the case of the Anderson Ranch, current agricultural activities may be examined in relationship to the historical development of agriculture in the area. The oral history data base would appear to be greater for the Muzzy/Anderson ranch although both ranches are remembered by several consultants. Both ranches offer the unique opportunity for understanding the technological elements of agricultural history in the area. Since many of the structures are still standing and in use, the ranch complexes as a whole can be viewed as models for the historical development of agriculture of the region. Features within the ranch complexes (such as certain types of barns, the addition of garages, equipment sheds) may be seen as indicative or correlative of technological changes in agriculture. These same changes should be indicated by variation in trash deposits, particularly those resulting from the disposal of items such as used equipment parts and broken tools.

### Birds Landing

Birds Landing possesses relative antiquity for the Delta region and through time has been important in the development of agriculture and trade in this part of the Delta. Birds Landing is best viewed as a complex resource consisting of standing structures and potential historical archaeological deposits. The town, at present, must also be viewed as the product of ongoing change which has resulted in the removal or destruction of what will be now considered interesting and significant historic structures or historical archaeological deposits.

Within the town, the Birds Landing store is without doubt one of the best recognized landmarks in the local area. It fulfills the function in the local community of reaffirming the history of the area, a function often discussed openly by local residents. There are other structures within the town which apparently share the component of age with the Birds Landing store, although they are often not recognized as such, nor are they as "historical" in appearance. The town must be assumed to have a high archaeological potential. The history of the town as described in Chapter 6 would indicate potential remains from the large number of commercial, public and residential structures known to have existed during the early history of the town. Evidence of this archaeological potential has not been located, although it is anticipated that test excavations would reveal subsurface deposits at many of the locations of the early structures discussed in Chapter 6.

Like the Stratton Lane area, Birds Landing must be viewed as a complex of interrelated resources. While individual resources have undoubted scientific potential and in some cases public significance, it is the development of the town itself which would seem to be of greatest interest. For this reason it is the interrelatedness of the resources and the contribution each individual resource can make to the understanding of the history of the town that is a major aspect of the significance of individual resources.

#### Railroad Corridor and Waste Disposal Site

The Railroad Corridor and Waste Disposal Site do not possess either the concentration of features or the aspects of significance found in other regions further to the south. The themes represented in both areas are confined to agricultural development, predominantly in the very late 19th and early 20th

century. The ranches represented in both areas appear to have been of the same type as that found to the south along Collinsville Road. Site 48H, the Donell ranch, consists of an extensive archaeological deposit including historic debris, trash and privy pits and well defined foundation remains. There is some indication from oral testimony that this ranch was operated by a family in a somewhat higher economic strata than many other families in the community. If the archaeological features at this site have not all been vandalized (this is a heavily potted site) exploration of the archaeological data, in combination with other data, may contribute to our understanding of social distinctions in the project area (e.g., in comparison to ranches in the waste disposal site or those along Stratton Lane).

Within the waste disposal site there are a number of ranchstead remains. Each has a particular history, and as such is interesting although none can be readily distinguished as either unique or especially significant. None of these ranches are now operating, although the oral testimony concerning their development and operation exists in abundance in the local community among descendants. The potential for archaeological deposits is varied although it is expected that each locale will possess the requisite number of trash deposits, filled wells and privies, presumably indicative of daily life on these ranches.

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